

DEPARTMENT OF STATISTICS  
UNIVERSITY OF LONDON, UNIVERSITY COLLEGE

# TRACTS FOR COMPUTERS

EDITED BY E. S. PEARSON, D.Sc.

No. XXV

## RANDOM NORMAL DEVIATES

5000 ITEMS COMPILED FROM TRACT No. XXIV  
(M. G. KENDALL AND B. BABINGTON SMITH'S  
VALUES OF RANDOM SAMPLING NUMBERS)

BY

HERMAN WOLD

CAMBRIDGE

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(M. G. KENDALL AND B. BABINGTON SMITH'S  
TABLES OF RANDOM SAMPLING NUMBERS)

By

HERMAN WOLD

PROFESSOR OF STATISTICS  
UNIVERSITY OF UPPSALA

page 51, column 10, line 12: for 1.09 read — 1.09

page 33, column 7, line 41: for 0.73 read — 0.73

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## EDITORIAL FOREWORD

The first random sampling numbers were compiled by L. H. C. Tippett about 1925 and published as *Tracts for Computers*, no. XV, in 1927. Among the many uses to which they were turned, a common one was that of providing artificial samples of variates randomly selected from a normal universe. Although in short series this process could be carried out fairly expeditiously with the help of an appropriate conversion scale, it became tedious if many hundreds of values were needed as, for example, in connexion with experimental investigations into sampling distributions. P. C. Mahalanobis was, I think, the first to realize the advantage of carrying out this conversion in a systematic manner and in 1934 the Indian Statistical Institute published in *Sankhyā*, vol. 1, pp. 289-328, a table of 10,400 random normal deviates derived from the random numbers of *Tract*, no. XV.

The need for more extensive tables of random numbers became gradually apparent and a new series, considerably longer than Tippett's, was compiled by M. G. Kendall and B. Babington Smith and published in 1939 as *Tracts for Computers*, no. XXIV. Professor Herman Wold has now gone through the arduous process of converting these numbers, also, into random normal deviates and I am very glad to have the opportunity of issuing the results in the *Tracts for Computers* series. Wold, as Kendall and Babbington Smith, has given special attention to the quality of the numbers from the user's point of view, by checking that within local groups they may be regarded as fair random samples from a normal universe having a zero mean and unit standard deviation.

E. S. PEARSON

University College, London

May 1948





# INTRODUCTION

1. In situations where we are concerned with artificial samples from the normal distribution, the requirements as to the size and what may be termed the quality\* of the sample may be very different. Suppose, for example, that some statistical characteristic  $g$ , based on  $n$  primary observations, is studied on the assumption that the observations are normally distributed and independent. If we have been able to find out the exact probability distribution of  $g$ , an artificial normal sample may be used to test and to illustrate the result obtained. We form  $N$  sets of  $n$  items from the artificial sample, and calculate  $g$  for each set; the distribution of the resulting  $N$  values of  $g$  should then approximate the theoretical  $g$ -distribution. It is plain that for such mainly illustrative purposes it is often sufficient to have at our disposal a sample of moderate size and quality.

Suppose, on the other hand, that the exact probability distribution of  $g$  is not available; it may be that the exact formula is so complicated that the numerical values of the usual significance levels have not been computed, or that we only know the limiting form of the distribution as  $n$  tends to infinity. In such cases we may use our  $N$  artificial values of  $g$  to get an idea of the shape of the  $g$ -distribution, or to find out for how large  $n$  we are entitled to employ the limiting distribution. This experimental method was introduced by W. S. Gosset ('Student') in his classical papers on the distribution of mean values and correlation coefficients.

If the experimental deduction of the  $g$ -distribution is to be performed with accuracy, we must have at our disposal an artificial sample which is carefully constructed as well as large. What size is required may be judged by the use of a convenient test due to A. Kolmogoroff (7).† Considering  $n$  as fixed, let  $P_N(\gamma)$  denote the fraction of our  $N$  values of  $g$  which are  $> \gamma$ , and  $P(\gamma)$  the probability that  $g > \gamma$ . Choosing some conventional confidence level, say 0.95, Kolmogoroff's test states that (for large  $N$ ) the probability is 0.95 that the inequality

$$-1.36/\sqrt{N} < P_N(\gamma) - P(\gamma) < +1.36/\sqrt{N} \quad (1)$$

will be satisfied for all  $\gamma$  simultaneously.‡ In particular, to reach the probability 0.95 that the difference  $P_N(\gamma) - P(\gamma)$  should keep between the limits  $\pm 0.03$ , we must take  $N$  as large as about 2000. Since the whole experiment requires  $N.n$  sample items, it is seen that unless the number  $n$  of primary

\* I.e. the care with which it has been constructed to insure randomness, etc.

† Further references are also given in (7).

‡ This holds good if the  $g$ -distribution is continuous. In the general case, the probability is  $\geq 0.95$ .

observations is quite small, the experiment will, even if we rest satisfied with a modest accuracy, consume more items than are now available in any existing tables of random normal deviates. There are in all 35,400 if the present tables are combined with those which P. C. Mahalanobis<sup>(8)</sup> has deduced from Tippett's random numbers<sup>(12)</sup>. It is, of course, clear that the experimental deduction of the  $g$ -distribution cannot be expected to work in practice unless the sample is unbiased as to randomness. In particular, it is not always advisable to multiply the items available by reading off the tables in fresh directions.\*

The present tables were originally planned to give material for experimental studies in time series analysis, a project which required a large collection of sample items (reading off twice or more would here be particularly dangerous owing to the difficulties in avoiding correlation between the serial correlation coefficients in different sample sets). With a view to having the tables published, special care was taken in the construction.

Kendall-Smith's numbers being arranged by rows, we started the transformation into normal deviates by reading off their tables row by row, thus obtaining in all 25,000 deviates. Unfortunately, it turned out that the variance for the whole table was 2.4% too high, which corresponds to a  $P$ -value as small as 0.7%. Because of this and other unsatisfactory results, the work was started anew, this time reading off the Kendall-Smith tables by columns. The same tests now gave fairly good results, and it is this second set which is given in the present tables. It is difficult to decide whether the failure with the first set is accidental or due to some slight defect in the construction of Kendall-Smith's tables.

In constructing the present tables, two sets of manuscript tables were computed independently, all tests applied to each set and compared, and the proofs read against each set. This work was performed by Miss E. Lundwall, Miss H. Laadi and Mr J. Käär. Mr M. Sandelius has assisted in working out the sign run test, and, together with Mr S. Malmquist, revised the introduction. To all five, all of the Statistical Institution at the University of Uppsala, I convey my heartiest thanks for their interest and efforts. Also I would fain offer my sincere thanks to Professor E. S. Pearson for accepting the tables for the *Tracts for Computers* series, and for his valuable hints in the course of the work.

2. *Details about the construction.* The present tables have been computed by a method closely similar to that indicated in K. Pearson's foreword to Tippett's tables<sup>(12)</sup>, and slightly refined by E. L. Dodd<sup>(2)</sup>.

The Kendall-Smith numbers were read off column by column, page by page, in groups of 4 digits. In the range 0100-9899 a decimal point was

\* See E. S. Pearson's Foreword to the Kendall-Smith tables (6).

prefixed and a 5 affixed, so that the resulting number, say  $y$ , may be regarded as chosen at random between 0 and 1, and rounded off so as to have 5 as the fifth and last decimal. Each  $y$  was transformed into an item in the present table, say  $x$ , by the use of the formula\*

$$y = \Phi(x) = \frac{1}{\sqrt{(2\pi)}} \int_{-\infty}^x e^{-\frac{1}{2}t^2} dt.$$

The transformation was carried through by the use of the tables of the normal distribution function recently published in New York.† The  $x$ -values were read off with 2 decimals, and arranged in *columns*, page by page. For example, all of the groups 6122-6159 give the deviate  $x = +0.29$ . The groups 5000-5019 give  $x = +0.00$ , while 4980-4999 give  $x = -0.00$ .

For  $y$ -values close to 0 or 1, there are gaps larger than 0.01 between the  $x$ -values given by the above method. In the ranges 0000-0099 and 9900-9999, the construction was therefore refined by adding two digits at random to each 4-group, and affixing a 5 as the 7th and last decimal; the two random digits were Kendall-Smith numbers read off successively by rows from the top of the corresponding page. For instance, the groups 998 837-998 874 have given  $x = +3.05$ .

To use the table when only one decimal is required in the sample items, the usual reduction rules should be followed. As to the items ending with 5 it might be recommended to raise or not to raise the first decimal according as the next item has the sign + or -.

Throughout the table the - signs have been printed and the + signs omitted.

3. *Tests of normality and randomness.* Four different tests were applied to the sample items. All tests have been applied to each of the 50 pages of the tables, each page set comprising 500 items. The distribution of the 50 resulting  $P$ -values of each test has been compared with the expected (rectangular) distribution. Moreover, the four tests have been applied to the five blocks of 5000 items, and to the whole set of 25,000 items.

The four tests will now be described as applied to a sample of  $n$  items. Thus  $n = 500$ ,  $n = 5000$  or  $n = 25,000$ .

I. *Sum test.* The test is based on the sum  $S$  of the  $n$  items. Obviously  $S/\sqrt{n}$  should be normally distributed with mean 0 and standard deviation 1. Forming  $x = |S/\sqrt{n}|$ , we have accordingly

$$P = 2 [1 - \Phi(x)]. \quad (2)$$

\* If the distribution of  $y$  is rectangular over the interval (0, 1),  $x$  will follow the normal distribution function  $\Phi(t)$ , since

$$\text{Prob}[x \leq t] = \text{Prob}[\Phi(x) \leq \Phi(t)] = \text{Prob}[y \leq \Phi(t)] = \Phi(t).$$

† Reference (4), here briefly called the *New York Tables*.

We note that the rejection level  $P=2\%$  for the modulus  $|S/\sqrt{n}|$  is equivalent to the rejection levels 1 and 99% for  $S/\sqrt{n}$ .

II. *Square sum test.* The sum  $T$  of the squares of the  $n$  items is calculated. The distribution of  $T$  should be the  $\chi^2$  distribution with  $n$  degrees of freedom. Thus  $\sqrt{(2T)}$  may be taken to be normally distributed with mean  $\sqrt{(2n-1)}$  and standard deviation 1. Making now  $x = |\sqrt{(2T)} - \sqrt{(2n-1)}|$ , it follows that  $P$  is given by the above formula (2).

III. *Range test.* Let  $R$  be the range in a subset of  $m$  items, e.g. the difference between the largest and the smallest of the  $m$  values, and let  $H(t)$  be the distribution function of  $R$ . Then\*

$$H(t) = \text{Prob}(R \leq t) = m \int_{-\infty}^{\infty} [\Phi(x+t) - \Phi(x)]^{m-1} d\Phi(x). \quad (3)$$

In fact, 
$$\binom{m}{1} \Phi'(x) dx [\Phi(x+t) - \Phi(x)]^{m-1} \quad (4)$$

is the probability that a subset of  $m$  should give one item between  $x$  and  $x+dx$ , and  $m-1$  items between  $x$  and  $x+t$ ; further, the probability of  $R \leq t$  is the integral of the probability (4) over all possible values  $x$ .† The distribution function (3) has been tabulated by E. S. Pearson & H. O. Hartley (10). Interpolating in their table for  $m=10$ , the following 6 intervals are found to represent equally probable alternatives for the range  $R$  as observed in a subset of 10 items:

$$\begin{array}{lll} 0.000-2.306 & 2.307-2.692 & 2.693-3.024 \\ 3.025-3.376 & 3.377-3.842 & 3.843-\infty. \end{array}$$

Our range test is based on the range  $R$  observed in the subsets of  $m=10$  items; thus there are 5 such subsets in each column of the table. Considering a sample of  $n$  items, the frequency of  $R$  in each of the above 6 classes was calculated, and, by the use of the  $\chi^2$  method, compared with the expected frequencies  $n/60$ ; there are 5 degrees of freedom.

IV. *Sign run test.* Considering the signs of successive sample items, the sequence of plus and minus signs should be purely random. The sign run test is a criterion on this randomness; it is of a type recently suggested by A. M. Mood (9), p. 390, Corollary 4).

$m$  consecutive items are said to form a sign run of length  $m$  if they have the same sign, and if the next preceding and the next following items have the opposite sign. Slightly modifying Mood's test, we agree that in counting the

\* See H. O. Hartley (5), formula (17).

† This proof is seen to be valid for any differentiable distribution function  $\Phi(x)$ . By an argument of approximation, it further follows that (3) holds good for any distribution function  $\Phi(x)$ , continuous or not.

sign runs, the  $n$  items of the sample considered should be arranged cyclically, by considering the  $n$ th item as being followed by the first.

Let  $U_m$  denote the number of sign runs of length  $m$ , pooling the small frequencies for  $m=6, 7, \dots$  into  $U_6$ . The expectation of  $U_m$  is then given by

$$E[U_m] = n \cdot 2^{-m-1} \text{ for } m < 6; \quad E[U_6] = n \cdot 2^{-6} + 2^{-n+1}.$$

Let, further,  $\sigma_{ij}$  be the covariance of  $U_i/\sqrt{n}$  and  $U_j/\sqrt{n}$ ,

$$\sigma_{ij} = \frac{1}{n} E[(U_i - E[U_i])(U_j - E[U_j])] \quad (i, j = 1, 2, \dots, 6),$$

and let  $[\sigma^{ij}]$  be the inverse of the moment matrix  $[\sigma_{ij}]$ .

The sign run test is based on the criterion

$$Q = \frac{1}{n} \sum_{i,j=1}^6 \sigma^{ij} (U_i - E[U_i])(U_j - E[U_j]). \quad (5)$$

As shown by Mood, the variables  $U_i/\sqrt{n}$  are, asymptotically in  $n$ , distributed according to a 6-variate, non-singular normal distribution. Hence, by K. Pearson's  $\chi^2$ -theorem on intercorrelated variables,\*  $Q$  asymptotically follows the  $\chi^2$  distribution with 6 degrees of freedom.

Asymptotical formulae for the  $\sigma_{ij}$  have been given by Mood. Thanks to the cyclical arrangement, the approximation error of these formulae reduces to the negligible order of  $n^2 \cdot 2^{-n}$ . The corresponding inverse has been used for calculating  $Q$ . Its elements turn out to be integers, the inverse matrix being:†

34	62	94	126	158	222
62	134	190	254	318	446
94	190	302	382	478	670
126	254	382	542	638	894
158	318	478	638	862	1118
222	446	670	894	1118	1630

4. *Test results.* For all of the tests applied, the rejection level was fixed at  $P=2\%$ .

The five sets of 5000 and the whole set of 25,000 obey all four tests, with the only exception that the Range test as applied to the first block 1-5000 has given  $P=1.54\%$ , slightly below the rejection level. The  $P$ -values of the four types of test are given in the table below. To facilitate the control of extensive sampling experiments, the table also gives the sums and the square sums of the blocks.

\* See, for example, H. Cramér(1), p. 319, Ex. 15.

† Further details of the sign run test will be published elsewhere.

Thousands	P-values in % for the tests based on				Sum	Square sum
	Sums	Square sums	Ranges	Sign runs		
1-5	2.4	12.7	1.5	33.9	159.97	4,848.1
6-10	3.1	98.2	19.2	87.4	152.13	4,997.4
11-15	74.7	50.2	67.9	55.0	-22.78	5,066.9
16-20	54.3	39.4	40.0	89.0	-43.07	5,085.1
21-25	21.8	3.6	38.1	87.4	-87.15	5,211.0
1-25	31.4	35.1	79.3	38.0	159.10	25,208.5

For example, for the first block of 5000 we have:

*Sum test*  $S/\sqrt{n} = 159.97/\sqrt{(5000)} = 2.262,$   
 $\Phi(x) = 0.9882, \quad P = 2 [1 - \Phi(x)] = 0.0237 \text{ or } 2.4\%.$

*Square sum test*  
 $\sqrt{(2T)} - \sqrt{(2n-1)} = \sqrt{(2 \times 4848.1)} - \sqrt{(9999)} = -1.526,$   
 $\Phi(x) = 0.9365, \quad P = 0.1271 \text{ or } 12.7\%.$

It is seen that the best test results have been obtained for the 3rd and 4th blocks. When the tables are used to form samples not larger than 10,000 items, it might accordingly be recommended to extract the sample from the 11th to 20th thousands.

When applied to the page sets of 500 items, all of the 50 pages were found to obey the sum test and the range test. One page set failed to pass the square sum test, and three the sign run test, as indicated below:

Page	Failed to pass	P (%)
7	Sign run test	0.02
22	Sign run test	1.9
26	Sign run test	1.8
43	Square sum test	0.5

Having applied 4 different tests to the 50 page sets, working on a 2% rejection level, we note that 4 cases of rejection is only what is to be expected. The pages in question have not been excluded; but a note has been appended in the two worst cases to caution the reader from using them by themselves.\*

For each type of test, the distribution of  $P$ -values obtained from the 50 page sets has been compared with the expected distribution, which is rectangular over the interval (0, 1). On the whole, the agreement with the expected distribution is good. The deviations have been tested by the  $\chi^2$  method, grouping the distribution in 10 equal intervals. The  $P$ -values obtained for the 4 tests are 49.4, 13.7, 29.0 and 91.1%, respectively. The agreement was also tested

\* For comments on this point, see the introduction to the Kendall-Smith tables (6).

by the method of Kolmogoroff mentioned above, a method not requiring any grouping, with the results  $P=15.5, 42.6, 26.6$  and  $98.9\%$ .

The extreme deviates for the complete set of 25,000 items are  $-4.14$  and  $+3.91$ , occurring in the 4th and 48th pages. The range in the whole set is accordingly  $R=8.05$ . This is in agreement with expectation; in fact, making use of the asymptotical distribution of  $R$  as recently established by G. Elfving<sup>(3)</sup>, we obtain  $P=44.1\%$ .

5. *The construction of samples from a multi-variate normal distribution.* The occasion frequently arises in statistical work to form random samples from a normal distribution in two or more variables. We shall briefly indicate a method for constructing such samples by the use of the present tables.

Supposing that we are concerned with  $n$  variables, say  $\xi_1, \xi_2, \dots, \xi_n$ ; let the prescribed means and second order moments of the parent distribution be

$$E[\xi_i] = m_i; \quad E[(\xi_i - m_i)(\xi_k - m_k)] = \lambda_{ik} \quad (i, k = 1, 2, \dots, n).$$

Suppose, further, that a random sample of  $N$  items is required from the normal distribution thus defined. Let the  $N$  items be denoted

$$(\xi_{11}, \xi_{12}, \dots, \xi_{1n}), (\xi_{21}, \xi_{22}, \dots, \xi_{2n}), \dots, (\xi_{N1}, \xi_{N2}, \dots, \xi_{Nn}). \quad (6)$$

Let us first consider the case when the covariance  $\lambda_{ik}$  of any two different variables  $\xi_i$  and  $\xi_k$  is zero. Extracting  $N \cdot n$  consecutive items from our tables, say

$$x_{11}, x_{12}, \dots, x_{1n}; \quad x_{21}, x_{22}, \dots, x_{2n}; \dots; x_{N1}, x_{N2}, \dots, x_{Nn}, \quad (7)$$

we may then simply make

$$\xi_{\mu\nu} = m_\nu + x_{\mu\nu} \sqrt{\lambda_{\nu\nu}} \quad (\mu = 1, \dots, N; \nu = 1, \dots, n).$$

Turning to the general case where  $\lambda_{ik}$  may differ from zero, we recall that the moment matrix  $L = [\lambda_{ik}]$  is positive definite or semi-definite,\* and that  $L$  accordingly allows the following representation†

$$\begin{bmatrix} \lambda_{11} & \lambda_{12} & \dots & \lambda_{1n} \\ \lambda_{21} & \lambda_{22} & \dots & \lambda_{2n} \\ \lambda_{31} & \lambda_{32} & \dots & \lambda_{3n} \\ \dots & \dots & \dots & \dots \\ \lambda_{n1} & \lambda_{n2} & \dots & \lambda_{nn} \end{bmatrix} = \begin{bmatrix} p_{11} & - & - & \dots & - \\ p_{21} & p_{22} & - & \dots & - \\ p_{31} & p_{32} & p_{33} & \dots & - \\ \dots & \dots & \dots & \dots & \dots \\ p_{n1} & p_{n2} & p_{n3} & \dots & p_{nn} \end{bmatrix} \begin{bmatrix} p_{11} & p_{21} & p_{31} & \dots & p_{n1} \\ - & p_{22} & p_{32} & \dots & p_{n2} \\ - & - & p_{33} & \dots & p_{n3} \\ \dots & \dots & \dots & \dots & \dots \\ - & - & - & \dots & p_{nn} \end{bmatrix}, \quad (8)$$

or, briefly,  $L = PP'$ , which is known as the Jacobi-Toeplitz parameter representation of  $L$ .

We shall use the representation (8) for constructing the sample. We must then first calculate the parameters  $p_{ik}$ . Using the familiar rule for matrix

\* See, for example, H. Cramér<sup>(1)</sup>, chapter 22.3.

† See, for example, I. Schur<sup>(11)</sup>, pp. 202-5. The bars denote zero elements.

multiplication, this can easily be done recursively, beginning with  $p_{11}, p_{21}, \dots, p_{n1}, p_{22}, p_{32}, \dots, p_{n2}, p_{33}, \dots$ . It is known that all  $p_{ik}$  are real, and all  $p_{ii} \geq 0$ . Further, if  $L$  is semi-definite of rank  $m < n$ , precisely  $n - m$  of the  $p_{ii}$  will equal 0, and if  $p_{ii} = 0$  we must make

$$p_{i+1,i} = p_{i+2,i} = \dots = p_{ni} = 0. \quad (9)$$

The relation  $L = PP'$  may be used to check the parameters  $p_{ik}$  thus obtained.

Next, we extract  $N.n$  consecutive items from the present tables, say (7). We then form our sample (6) by making

$$\left. \begin{aligned} \xi_{\mu 1} &= m_1 + p_{11}x_{\mu 1} \\ \xi_{\mu 2} &= m_2 + p_{21}x_{\mu 1} + p_{22}x_{\mu 2} \\ &\dots\dots\dots \\ \xi_{\mu n} &= m_n + p_{n1}x_{\mu 1} + p_{n2}x_{\mu 2} + \dots + p_{nn}x_{\mu n} \quad (\mu = 1, \dots, N) \end{aligned} \right\}. \quad (10)$$

Considering two sample values  $\xi_{\mu i}$  and  $\xi_{\mu k}$  with  $i \leq k$ , the following relation shows that the prescribed conditions are fulfilled,

$$\begin{aligned} E[(\xi_{\mu i} - m_i)(\xi_{\mu k} - m_k)] &= \sum_{r=1}^i \sum_{s=1}^k p_{ir} p_{ks} E(x_{\mu r} x_{\mu s}) \\ &= \sum_{r=1}^i p_{ir} p_{kr} E(x_{\mu r} x_{\mu r}) = \sum_{r=1}^i p_{ir} p_{kr} = \lambda_{ik}. \end{aligned}$$

It is seen from (9) that if  $L$  is of rank  $m < n$ , only  $N.m$  items (7) are required for the construction.

In the particular case of two variates,  $\xi_1$  and  $\xi_2$ , with zero means, unit standard deviations, and correlation coefficient  $\rho$ , the system (10) reduces to

$$\begin{aligned} \xi_{\mu 1} &= x_{\mu 1}, \\ \xi_{\mu 2} &= \rho x_{\mu 1} + \sqrt{(1 - \rho^2)} x_{\mu 2} \quad (\mu = 1, \dots, N). \end{aligned}$$

As an illustration, let it be required to form a random sample from a 4-variate normal distribution with all  $m_i = 0$ , and with a moment matrix  $L$  as given below to the left,

$$L = \begin{bmatrix} 3.2 & 1.5 & 1.7 & -0.3 \\ 1.5 & 1.8 & -0.3 & 0.7 \\ 1.7 & -0.3 & 2.0 & -1.0 \\ -0.3 & 0.7 & -1.0 & 2.4 \end{bmatrix}, \quad P = \begin{bmatrix} 1.789 & - & - & - \\ 0.839 & 1.047 & - & - \\ 0.950 & -1.047 & - & - \\ -0.168 & 0.803 & - & 1.314 \end{bmatrix}.$$

Observing that the first row (column) of  $L$  is the sum of the second and third, we conclude that  $L$  is of rank  $< 4$ . As is easily verified,  $L$  is of rank 3 and positive semi-definite.



Starting the recursive calculation of the elements  $p_{ik}$  of the matrix  $P$ , we obtain successively  $p_{11}^2 = 3.2$ ,  $p_{11} = 1.789$ ;  $1.789 p_{21} = 1.5$ ,  $p_{21} = 0.839$ ;  $1.789 p_{31} = 1.7$ ,  $p_{31} = 0.950$ ;  $1.789 p_{41} = -0.3$ ,  $p_{41} = -0.168$ ;  $0.839^2 + p_{22}^2 = 1.8$ ,  $p_{22} = 1.047$ ;  $0.839 \times 0.950 + 1.047 p_{32} = -0.3$ ,  $p_{32} = -1.047$ . Similarly, we obtain  $p_{42} = 0.803$  and  $p_{33} = 0$ , and so (9) gives  $p_{43} = 0$ ; finally,  $0.168^2 + 0.803^2 + p_{44}^2 = 2.4$  gives  $p_{44} = 1.314$ . The resulting matrix  $P$  is shown above. As is easily verified,  $PP' = L$ , which checks the calculation of the  $p_{ik}$ .

Thus prepared, we proceed to forming the sample (7). Since one column of  $P$  is empty, in agreement with the fact that  $L$  is of rank 3, the corresponding elements  $x_{\mu 3}$  are not needed. Extracting the elements  $x_{\mu\nu}$  from our table, beginning with the 11th thousand, we obtain for the first few elements

$$(-0.59, +0.34, -, +0.74), (-1.09, +1.19, -, +1.27), \\ (+2.01, +0.45, -, +0.52), \dots$$

Inserting finally in (10), the three first elements in the sample required are found to be

$$(-1.06, -0.14, -0.92, 1.34), (-1.95, 0.33, -2.28, 2.81), \\ (+3.60, 2.16, 1.44, 0.71), \dots$$

H.W.

Uppsala, 1947

## REFERENCES

- (1) CRAMÉR, H. (1946). *Mathematical Methods of Statistics*. Princeton, N.J.
- (2) DODD, E. L. (1942). A transformation of Tippett random sampling numbers into numbers normally distributed. *Bol. Mat.* **15**, 73.
- (3) ELFVING, G. (1947). The asymptotical distribution of range in samples from a normal population. *Biometrika*, **34**, 111.
- (4) Federal Works Agency, Work Projects Administration for the City of New York (1942). *Tables of Probability Functions*, 2. New York.
- (5) HARTLEY, H. O. (1942). The range in random samples. *Biometrika*, **32**, 334.
- (6) KENDALL, M. G. & BABINGTON SMITH, B. (1939). Tables of random sampling numbers. *Tracts for Computers*, no. XXIV. Cambridge.
- (7) KOLMOGOROFF, A. (1941). Confidence limits for an unknown distribution function. *Ann. Math. Statist.* **12**, 461.
- (8) MAHALANOBIS, P. C. (1934). Tables of random samples from a normal population. *Sankhyā*, **1**, 289.
- (9) MOOD, A. M. (1940). The distribution theory of runs. *Ann. Math. Statist.* **11**, 367.
- (10) PEARSON, E. S. & HARTLEY, H. O. (1942). The probability integral of the range in samples of  $n$  observations from a normal population. *Biometrika*, **32**, 301.
- (11) SCHUR, I. (1918). Ueber endliche Gruppen und Hermitesche Formen. *Math. Z.* **1**, 184.
- (12) TIPPETT, L. H. C. (1927). Random sampling numbers. *Tracts for Computers*, no. XV. Cambridge.



# RANDOM NORMAL DEVIATES

First Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	-0.84	0.68	0.11	1.05	0.09	0.83	1.35	1.01	-0.54	0.28
2	1.37	-0.77	-0.89	0.61	-2.54	1.55	-0.92	-0.20	1.11	-1.52
3	-0.18	-1.39	0.99	-0.01	-0.22	0.36	1.27	0.45	0.59	1.52
4	0.35	-1.91	0.50	-0.92	-0.30	0.36	1.28	-0.69	-1.64	0.42
5	2.82	0.05	-0.95	1.17	1.22	0.14	-2.13	-0.76	0.24	-1.07
6	2.12	1.32	0.81	-1.91	-1.23	-0.17	-0.38	-0.03	-1.65	-0.35
7	-0.99	-0.67	-0.28	-0.48	-0.12	-2.21	-0.10	0.40	-0.83	-0.37
8	0.34	-0.81	-1.64	-0.21	-0.19	0.66	0.12	0.39	1.06	-0.38
9	0.64	0.96	-1.44	-2.47	-1.69	-0.45	2.31	1.39	-0.17	0.09
10	0.11	-0.24	0.01	-0.28	0.04	1.28	0.47	0.77	-1.31	-0.38
11	-0.02	-0.66	0.24	-0.43	1.09	-0.41	0.42	-0.37	-0.56	0.38
12	-0.86	1.08	0.46	0.08	1.03	-1.73	-1.07	0.35	0.66	0.88
13	0.01	0.27	0.02	-0.60	-0.61	-1.01	0.22	-1.25	1.43	-1.92
14	-0.03	0.46	-2.09	-1.60	-0.56	-1.38	-1.33	-0.70	-0.18	1.11
15	-0.41	-0.77	2.08	-0.98	0.36	-0.36	-2.24	1.41	-0.07	-1.59
16	0.62	0.00	-0.80	-0.62	0.35	0.31	-0.20	-0.04	-0.41	-0.33
17	0.83	1.01	0.27	1.47	0.29	-2.79	0.20	0.42	0.51	-0.63
18	-0.78	-0.92	0.21	-0.60	-0.59	0.14	0.09	-0.09	0.97	0.96
19	0.03	0.98	-1.33	0.66	-0.57	-0.68	0.02	-0.59	-1.20	1.05
20	-2.30	0.24	1.70	-0.52	-0.15	1.13	-0.23	0.77	-0.10	-0.48
21	0.78	1.01	-0.92	1.82	-0.67	-1.30	-1.07	-0.69	1.53	-0.60
22	0.66	1.49	1.73	-0.27	-0.87	-0.64	1.43	0.14	-0.68	0.69
23	-0.34	1.16	0.66	0.59	0.35	-1.63	0.22	-0.34	1.70	-0.46
24	1.16	0.48	-1.69	0.07	0.70	-0.49	-1.24	-0.51	1.40	-0.87
25	0.76	0.40	2.13	-0.25	-0.15	-0.25	0.91	0.54	0.17	-0.45
26	-1.00	-0.12	-2.20	0.75	1.30	-0.64	-1.88	1.35	-1.98	-0.14
27	-0.32	-0.85	1.57	0.25	0.75	-0.61	0.08	0.06	-0.61	-1.02
28	0.18	-0.46	-1.85	2.24	1.08	0.24	2.19	0.66	1.03	-0.58
29	0.08	0.35	-2.24	-0.27	0.67	-1.01	0.17	-0.35	0.66	1.38
30	1.98	0.23	-0.15	-0.22	-0.56	-0.62	-0.61	-0.53	-0.62	1.11
31	0.91	0.20	-0.45	0.06	-1.10	-0.23	-0.12	-0.56	-0.03	-1.49
32	-0.32	-0.17	-0.03	-0.75	0.93	0.42	0.70	-0.02	0.15	-0.14
33	-1.77	0.12	1.01	-2.27	0.55	0.32	-1.72	0.66	-1.86	0.50
34	0.16	-1.48	1.19	-0.23	0.59	0.41	-1.46	0.10	-1.55	-0.35
35	0.79	0.52	-1.03	-1.18	-0.85	1.67	-0.36	0.52	0.34	0.94
36	0.20	1.56	0.35	-0.62	-0.15	-0.19	-1.39	-0.46	-0.63	0.50
37	1.31	1.04	-0.82	0.47	0.81	0.26	0.01	0.47	0.30	0.83
38	0.35	-0.18	1.76	0.92	-1.21	-0.48	0.52	0.40	0.31	0.04
39	0.74	-0.26	-0.68	-0.32	-0.44	0.01	-0.47	-1.15	1.13	-0.12
40	0.27	1.00	-0.88	-0.23	-0.47	-1.61	-0.01	-0.29	0.68	0.30
41	1.39	-0.51	-0.14	-0.89	0.76	0.14	-0.49	0.82	-0.01	-1.45
42	-0.14	0.05	0.77	1.33	-0.58	-0.76	0.19	0.23	-0.45	-0.23
43	-0.76	-0.69	-1.61	0.33	-0.13	0.30	-0.05	-0.87	0.03	0.77
44	0.37	-0.58	-0.67	0.68	0.17	-0.54	1.07	-0.12	0.03	-0.37
45	-2.28	-0.69	0.58	-0.38	-1.65	-0.86	-1.39	0.64	-0.64	1.26
46	0.36	-1.41	-1.06	-0.89	-0.28	-0.75	0.96	-0.03	0.34	-0.62
47	1.37	0.24	0.51	-0.28	0.32	0.32	1.32	0.17	0.01	-0.00
48	1.04	0.41	-0.24	0.19	-2.10	-0.69	-0.98	1.49	0.49	0.83
49	-0.67	0.15	-1.60	0.84	-0.07	-0.06	-0.25	-0.51	-0.63	0.88
50	0.39	-0.24	0.29	-0.03	0.83	0.67	-1.20	0.62	-2.07	1.21

$\Sigma(x)$  10.48 1.68 -7.73 -5.13 -5.77 -13.03 -5.77 5.08 -3.55 0.02  
 $\Sigma(x^2)$  51.4936 32.9330 67.1551 44.7007 37.4683 43.2437 55.4525 22.2392 44.3801 36.5678

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.88	-1.01	0.30	0.84	-0.01	0.24	-0.75	-0.97	-0.19	1.31
2	-0.62	-0.43	0.95	0.77	0.08	-0.57	-0.47	2.38	0.13	-0.17
3	-0.36	-0.76	-1.00	0.78	2.51	-0.72	0.55	0.78	-0.82	-0.95
4	0.86	0.13	1.43	1.78	-0.88	-0.36	0.87	0.35	-0.18	0.69
5	0.98	-0.87	1.06	-0.40	0.64	0.88	-0.63	1.10	-2.43	0.32
6	-0.73	1.69	-0.66	0.08	0.14	0.30	-0.60	-0.03	0.78	0.26
7	-0.52	0.02	0.60	-0.01	0.82	1.28	0.85	-1.47	-0.98	-0.39
8	-0.72	0.33	1.11	-0.14	-0.51	-1.38	-0.86	0.68	-0.09	-0.50
9	-0.97	-0.79	-0.08	0.11	-1.75	1.68	0.79	-0.73	-0.81	1.91
10	1.28	1.41	1.41	0.19	0.47	-0.17	0.77	-1.17	0.56	2.37
11	-0.18	1.79	0.78	-0.09	1.13	-0.14	-1.31	-0.05	-2.32	1.77
12	-0.27	1.38	-2.01	-0.40	1.13	0.68	1.02	1.02	0.01	-0.09
13	1.17	0.71	-1.53	0.46	0.40	0.18	1.01	-0.19	-0.90	-0.62
14	0.91	-0.28	0.30	0.07	-1.77	-1.71	-0.69	-0.89	0.22	-1.02
15	0.15	-0.96	0.87	-1.95	-0.06	-0.28	-0.59	0.56	-1.36	-0.54
16	0.72	-0.09	-0.77	-1.09	0.47	0.94	-1.76	0.47	0.65	0.07
17	-1.25	-0.60	2.32	1.54	-0.18	0.33	0.47	-0.70	0.39	-0.16
18	-1.08	-0.09	0.62	0.45	0.30	1.18	2.36	1.49	0.53	-1.44
19	-1.18	-0.51	-0.93	-0.61	0.14	-0.62	-0.88	-0.75	0.81	-0.60
20	-0.89	-0.29	1.65	-0.53	0.54	1.69	-0.42	1.03	0.91	-0.23
21	0.30	1.50	0.13	0.54	-0.07	-0.40	0.06	0.24	-0.14	-0.67
22	-0.65	0.47	1.35	1.49	0.17	-1.96	-1.55	-0.42	1.76	1.56
23	0.88	-2.34	-1.14	0.53	1.07	-0.84	0.92	-0.67	1.19	0.51
24	0.98	-1.09	0.35	2.40	2.75	-0.54	0.48	-1.32	1.41	0.33
25	1.97	1.18	-2.15	-0.99	-2.67	0.05	0.88	0.20	-1.00	-0.01
26	-0.82	-0.53	0.43	0.79	-0.43	-0.82	-2.01	1.31	-1.20	0.13
27	0.60	-0.73	-1.41	0.07	-0.03	0.46	1.62	1.11	0.71	0.81
28	-0.37	1.47	-0.14	0.82	-1.10	-0.41	0.40	-0.21	-0.59	-1.09
29	0.68	-0.78	1.69	0.69	-0.24	1.27	1.94	-0.35	-1.38	-0.90
30	-0.88	-0.30	0.84	-0.44	0.47	-1.22	0.49	-2.76	2.17	-0.39
31	1.73	1.73	-2.14	1.20	1.14	1.76	0.36	-0.63	0.30	0.57
32	0.38	1.02	-0.75	1.03	-0.64	-0.20	-0.47	-2.31	0.51	-0.88
33	-0.65	-0.31	-0.58	-1.25	-0.46	1.05	2.19	-0.01	-0.07	0.57
34	1.07	1.28	-0.25	-0.89	-0.12	-0.95	1.22	0.41	0.55	0.98
35	-0.05	-1.14	0.29	0.78	1.33	-0.16	0.69	3.02	0.52	-0.38
36	-0.54	-0.27	-1.00	2.04	-1.05	-1.11	-0.70	1.26	0.01	-1.06
37	-0.28	-1.14	-1.69	0.81	-1.20	0.97	-1.27	0.36	1.37	1.79
38	-0.61	1.68	0.63	-0.93	0.75	1.53	0.18	-0.43	0.82	0.00
39	-0.22	-1.70	-1.34	0.53	0.11	-0.05	0.98	-0.26	-0.08	0.23
40	0.15	0.27	-1.76	2.23	0.44	0.64	-0.76	1.73	-0.25	0.21
41	-0.86	0.69	0.73	1.27	-2.39	-1.83	-0.48	-0.64	1.32	-0.76
42	0.75	-0.85	-0.10	0.28	0.95	-0.73	1.49	0.20	-0.50	-0.94
43	0.82	0.50	0.69	1.38	-0.54	1.26	-0.34	-2.08	-0.04	-0.98
44	-0.73	-0.05	0.63	-0.77	-0.93	-0.11	0.15	-0.46	0.98	0.97
45	0.40	-0.15	-1.33	0.93	-0.86	0.02	-0.77	-0.84	-0.50	-0.64
46	0.17	1.66	-0.63	2.90	-0.97	-1.52	1.28	0.16	0.51	0.16
47	1.36	0.76	0.11	0.62	-1.28	-1.61	-1.16	-1.42	1.59	-1.39
48	-0.98	-1.38	-1.08	-1.30	0.08	-0.83	1.88	0.20	0.44	-0.03
49	-1.30	0.53	1.05	-0.08	-0.12	1.78	-0.67	1.34	0.97	0.36
50	0.06	-0.87	0.48	0.04	-0.50	0.29	-0.78	-0.63	-1.29	-0.87

$\Sigma(x)$  1.54 0.95 -1.67 15.81 -2.73 -0.72 5.98 -0.99 5.00 0.18  
 $\Sigma(x^2)$  35.9004 51.6413 61.4693 57.3619 54.1509 50.9664 56.3456 62.9609 48.4038 39.9808

# SECOND THOUSAND

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.80	0.10	0.59	-0.89	-0.59	-0.94	0.88	0.53	-0.02	-0.90
2	-0.45	0.24	-0.99	-0.95	-0.00	0.41	1.40	-0.85	0.58	-1.06
3	-0.40	-0.00	-0.03	-1.07	0.64	1.55	0.58	0.15	-1.37	-1.68
4	-1.19	0.97	1.28	0.52	0.10	-0.10	-0.00	1.10	-1.19	-0.89
5	0.44	0.19	-0.85	-0.60	-0.42	0.71	-1.15	2.59	2.09	1.31
6	0.00	-0.84	-0.32	0.45	-1.14	1.59	1.55	1.10	0.38	0.46
7	0.31	0.29	0.38	0.16	0.79	0.98	-0.50	0.48	1.03	0.68
8	0.86	0.39	-1.08	-0.48	2.57	-0.51	0.79	-0.93	1.62	-1.21
9	1.23	-2.64	-2.03	-0.09	1.77	0.40	-0.49	-0.60	-0.06	1.06
10	-0.05	0.53	-0.19	-1.75	-0.80	0.13	0.48	-0.77	-0.65	1.42
11	-1.20	0.62	-0.52	-0.27	1.53	0.51	0.23	0.31	-1.18	1.29
12	2.08	-0.64	0.55	0.15	-1.56	0.34	0.02	0.44	0.17	-0.05
13	-0.50	-1.34	-0.30	0.27	-0.34	-1.64	1.12	1.34	0.71	1.68
14	-0.28	-0.17	0.22	1.08	0.32	-0.66	1.44	-0.24	-0.58	-1.31
15	1.06	-1.36	0.99	-1.65	0.62	1.30	-0.05	1.43	-0.73	2.33
16	-2.55	-1.67	0.61	1.14	1.64	-1.31	0.56	0.73	0.85	0.43
17	0.30	1.55	0.51	-1.75	-0.56	-1.61	1.31	0.93	-0.07	1.83
18	1.70	-0.11	2.05	-0.04	-1.01	-1.69	-0.33	0.22	1.53	-0.19
19	1.24	0.09	-0.51	-0.96	0.27	0.24	-1.12	-1.95	-0.37	0.34
20	-0.60	0.60	-0.61	-0.93	0.34	1.53	-0.58	0.10	0.38	-0.73
21	1.58	-0.48	0.02	-0.36	1.00	-1.47	-0.49	0.94	-0.38	1.33
22	0.99	2.56	-0.04	0.98	0.20	1.23	-0.08	0.29	-0.56	1.12
23	1.27	0.95	0.16	0.43	-0.32	-1.20	-0.79	1.68	-1.27	0.83
24	1.12	-0.46	0.50	-1.16	-0.50	-0.78	-0.32	1.18	1.21	0.75
25	-0.57	-0.34	-1.72	-1.12	-1.21	1.07	-1.48	1.46	1.22	0.22
26	1.39	0.45	0.39	0.02	0.78	-0.12	1.51	0.37	0.94	0.29
27	-2.90	0.52	0.59	0.52	-0.81	1.06	-0.54	-0.16	-0.95	1.97
28	0.41	-0.68	-0.02	-0.11	-1.49	0.13	-0.68	-0.04	-1.05	0.48
29	1.60	0.48	-0.39	-0.00	-0.81	-0.87	0.05	-0.49	0.68	-1.13
30	-0.10	0.73	-1.91	0.67	-0.69	-0.71	0.60	1.85	0.76	1.34
31	1.61	0.21	0.44	0.38	-1.40	1.63	-0.63	-0.15	0.28	1.82
32	1.68	0.54	-1.76	0.20	-0.64	0.41	-0.08	0.90	-2.56	-1.31
33	0.21	0.07	-0.43	-0.15	-1.05	-0.87	0.82	0.06	0.11	0.05
34	-0.24	0.74	0.93	-1.25	1.02	-1.11	1.28	-0.74	-0.46	-0.45
35	0.48	-0.38	1.07	1.20	-2.26	-0.34	0.41	0.41	0.88	0.63
36	-0.20	0.55	0.46	0.23	1.17	0.37	1.91	0.08	-0.65	0.41
37	1.11	-0.62	1.87	0.21	1.90	0.72	-0.69	0.62	2.12	0.65
38	0.89	0.07	-0.22	-1.25	-0.00	-0.89	-1.72	0.02	-1.11	-0.63
39	0.82	-0.77	-2.33	1.02	2.92	-0.38	-0.98	1.03	0.33	-0.83
40	1.57	-1.07	-0.20	-0.00	0.58	1.54	0.18	-0.22	1.40	0.42
41	0.59	1.46	-0.23	-1.84	-0.56	-1.62	-1.47	-0.91	-1.24	0.86
42	-0.64	0.12	-0.03	1.39	-1.23	-1.47	0.43	0.57	0.40	1.34
43	-0.88	0.69	-0.09	-0.94	0.70	0.12	-0.26	-1.03	0.14	0.59
44	-0.31	-0.76	-0.34	2.39	2.00	0.01	-0.40	-0.09	0.97	1.48
45	-1.10	0.63	1.24	1.49	-0.99	1.25	-0.37	-1.49	2.87	1.01
46	0.14	-1.79	0.47	0.34	-0.24	0.59	-0.55	0.42	0.28	-1.42
47	-0.45	-0.18	-0.33	-4.14	-0.18	0.36	-0.95	-0.72	-0.47	-0.53
48	0.57	1.04	0.83	0.69	-0.69	0.78	0.30	1.56	-0.58	1.43
49	1.17	0.94	-0.80	0.14	0.41	0.10	-0.53	-2.26	0.54	-0.34
50	1.09	0.16	1.27	0.13	0.26	0.47	-0.25	0.75	0.27	0.45

$\Sigma(x)$  14.10 2.18 -0.85 -7.55 2.04 1.24 0.37 12.90 7.24 17.64  
 $\Sigma(x^2)$  60.2010 41.2750 43.6537 59.6237 61.8678 48.5028 37.1199 49.9284 55.0932 58.2230

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.09	-0.56	0.33	-0.80	-0.45	-1.71	0.34	1.52	-0.41	-1.78
2	0.98	1.38	-2.54	-0.56	0.78	1.03	-0.30	0.76	-2.13	0.09
3	-0.70	-1.03	0.45	-1.06	0.80	0.07	-0.53	0.73	1.36	0.28
4	-0.12	-1.26	0.16	-0.22	-0.09	0.98	-1.33	0.41	0.72	0.91
5	-2.00	0.28	0.93	-1.20	-0.54	0.02	0.95	0.54	-0.22	-0.19
6	0.96	-1.81	-0.55	-1.32	1.06	-0.44	-0.83	-0.43	-0.29	0.56
7	0.97	-0.40	0.38	1.41	0.84	-0.01	-1.17	-1.33	-0.55	-0.28
8	1.11	0.52	-0.05	0.53	0.64	-0.60	0.58	0.64	-0.81	1.54
9	-2.19	0.14	-0.06	-0.67	-0.26	-1.40	-0.18	0.44	-0.52	-0.07
10	0.02	1.66	-2.01	-0.17	0.64	-1.60	-0.84	0.86	0.08	-2.10
11	0.53	-0.53	0.13	2.09	-0.56	0.51	0.56	-1.45	0.41	-1.32
12	0.79	-0.40	-0.23	0.14	-0.01	0.40	-1.10	-1.28	0.35	-0.11
13	0.08	0.40	0.98	0.36	-1.05	0.26	-1.13	-0.25	-0.24	-0.67
14	-0.39	-1.16	-0.73	-1.13	-1.11	0.38	-0.50	-1.38	-1.61	-0.33
15	-0.19	0.48	0.24	1.23	-1.37	-0.12	0.41	1.17	-0.76	-0.44
16	0.82	-0.87	-1.68	0.80	-0.26	1.25	1.29	0.86	0.57	0.22
17	-0.87	-0.24	1.13	0.54	0.56	0.41	2.12	0.64	0.12	1.84
18	-0.50	-1.35	0.14	1.86	0.19	-0.25	-1.04	-0.53	-1.16	0.81
19	0.21	-1.94	1.30	1.43	0.43	-1.42	1.33	-0.04	-0.84	-0.87
20	0.88	1.77	1.82	0.85	0.87	1.27	-1.33	-0.51	-0.79	0.83
21	-1.02	-0.34	1.21	0.40	0.15	-1.47	-0.37	-0.38	-0.42	-0.01
22	1.60	-0.39	0.36	-0.59	0.12	-1.05	0.23	0.02	-1.02	-0.59
23	-1.87	-0.44	-0.54	0.76	0.83	1.96	-1.07	-0.55	-0.70	0.97
24	1.64	-1.73	0.12	-0.78	-0.52	0.33	-0.83	-1.42	0.22	-0.55
25	1.19	-0.12	0.31	0.98	1.51	-0.82	0.38	-0.58	0.41	-0.35
26	-0.46	0.42	1.30	-0.34	1.30	1.29	-0.31	-1.11	-0.10	-1.20
27	0.41	0.29	0.36	0.54	0.75	-1.38	-0.70	0.91	-0.67	0.14
28	-0.73	-0.63	3.58	-0.66	-0.62	2.17	0.69	-0.88	-0.17	-1.10
29	-1.06	-0.14	-1.03	-0.09	-2.10	-0.82	0.76	0.71	1.11	1.20
30	0.19	0.46	-0.77	1.73	1.25	-0.84	-0.49	0.97	-0.49	-0.05
31	1.17	-0.63	0.71	0.50	-0.69	-0.54	1.85	0.39	-2.83	1.61
32	0.68	-0.11	0.15	-0.62	0.15	0.59	0.05	0.54	-2.02	-0.10
33	-0.45	0.74	0.63	0.62	-0.88	0.86	-0.46	0.80	0.84	-0.08
34	-0.50	1.87	-0.07	0.63	0.41	-1.38	-0.17	1.38	-0.39	-1.90
35	-1.15	-0.62	-1.11	-0.01	0.77	0.74	1.23	1.39	-1.65	0.05
36	0.16	-0.21	-0.33	0.55	1.22	0.35	0.10	0.06	-0.27	0.22
37	1.27	-0.39	0.70	1.02	-0.83	-1.85	-0.14	-1.68	0.97	-0.70
38	-2.29	-1.20	-0.29	-0.66	-0.58	0.28	1.24	2.12	-0.56	1.03
39	-0.49	-1.13	-1.28	-0.92	-0.82	-1.30	-0.23	-0.97	-1.14	-0.59
40	0.50	-1.03	-0.17	-2.13	-1.71	1.00	-0.27	-0.50	-0.02	-0.55
41	1.07	-0.17	1.28	1.15	0.34	3.10	-0.39	0.46	0.51	0.90
42	-1.68	-0.65	-1.58	0.57	-0.71	1.91	-2.33	-0.09	1.69	0.84
43	-0.69	-0.39	0.36	0.01	0.03	1.14	-0.28	0.72	-0.49	-0.84
44	-0.50	0.27	-0.17	0.24	0.12	0.26	-1.19	-2.35	-0.71	-0.48
45	0.34	0.25	-0.73	-0.49	-0.49	0.71	0.27	2.24	0.34	-0.38
46	1.11	-0.16	-0.69	0.68	1.61	1.52	0.66	0.13	0.56	0.09
47	0.44	-0.05	-0.07	1.97	0.91	-0.09	0.36	-0.03	-1.00	-0.63
48	-2.08	0.99	-1.39	0.47	0.15	0.05	0.18	-0.48	-0.28	-0.05
49	0.40	0.25	-0.08	0.72	0.85	-0.22	-1.58	-1.54	-1.51	-0.27
50	-0.37	1.70	-0.25	0.89	-1.51	-0.38	0.00	0.25	0.49	-0.74

$\Sigma(x)$  -1.69    -8.21    0.66    11.25    2.12    5.15    -5.51    1.90    -16.02    -5.19  
 $\Sigma(x^2)$  53.257    41.0057    52.9932    45.4163    37.7012    61.4229    41.4483    50.4174    45.0418    37.2605

First Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	1.43	1.70	1.82	0.47	0.56	-0.41	-1.56	-1.73	-0.43	0.73
2	0.39	-0.41	1.03	0.86	-0.33	0.73	-0.21	-1.46	-0.75	-1.23
3	-0.79	0.19	1.14	1.22	0.28	1.81	-0.12	-0.69	-1.28	0.72
4	0.01	-0.70	0.78	0.98	-0.47	-0.96	-1.47	-1.01	-0.23	-1.03
5	-0.42	-0.05	-0.21	0.58	-0.81	0.46	0.29	0.75	1.03	0.47
6	1.55	0.08	0.76	-0.32	0.19	0.94	2.74	0.33	0.67	-1.43
7	-1.20	0.17	1.05	1.04	0.73	1.21	-0.33	0.36	-0.11	0.99
8	-2.03	-0.06	1.15	-0.38	0.09	-1.59	-2.01	-1.28	0.95	0.38
9	0.73	-0.38	0.96	1.97	0.58	0.07	0.29	-0.36	1.43	-0.90
10	0.49	-0.87	-0.55	2.13	-1.47	-1.16	2.79	0.74	1.12	-1.13
11	-2.95	-0.05	-0.07	0.89	-2.08	-0.00	1.18	-0.65	-0.70	-1.29
12	0.40	-0.40	-0.40	0.51	0.72	-0.22	-0.47	-0.27	-0.23	1.44
13	-0.21	2.05	-0.53	-0.01	-0.31	-1.01	0.14	-1.45	-0.34	-0.72
14	-0.97	-1.25	1.57	2.07	0.29	0.38	-0.90	0.04	-0.13	-1.38
15	-0.00	-0.21	0.41	-0.65	-1.64	-0.08	0.67	0.23	-1.10	0.89
16	1.92	0.62	-0.97	-1.40	0.81	0.14	0.26	0.56	2.20	1.53
17	-0.45	0.13	0.13	1.11	0.25	-1.07	0.94	0.53	0.30	1.09
18	-0.04	-0.72	0.63	-0.38	0.05	-0.06	1.32	0.11	-0.13	1.70
19	1.60	0.28	0.12	-0.63	0.09	-0.46	-0.09	0.81	0.33	-0.47
20	0.87	-0.66	1.04	1.29	-0.77	-1.56	-0.96	-0.23	-0.78	0.24
21	-0.36	-0.28	-0.26	-0.22	-0.23	-0.06	-0.85	-0.86	-0.92	1.23
22	0.32	-0.15	-0.04	0.05	-0.54	1.57	0.70	-0.04	1.13	-1.13
23	0.03	-0.81	1.91	0.22	0.96	1.39	-0.02	-0.37	-1.61	0.84
24	-0.62	0.19	-0.77	-1.06	1.71	-0.66	-1.11	0.63	1.25	-1.03
25	-0.29	-0.45	1.08	-0.42	-0.60	1.16	0.07	-1.65	-0.46	0.93
26	0.04	-0.72	0.05	-0.66	-0.17	1.19	-1.89	0.88	0.94	0.96
27	0.39	-0.71	-0.66	0.39	1.75	0.87	0.66	-1.50	0.84	-2.02
28	1.17	-0.05	-0.01	0.57	1.01	-1.33	0.01	1.90	-1.26	-0.28
29	-1.01	-0.71	2.32	1.39	-0.42	-0.00	0.73	0.20	0.43	-1.60
30	0.43	-0.29	-0.62	-0.49	0.67	0.39	-0.46	1.73	0.95	1.14
31	1.08	0.04	-0.19	0.10	2.60	0.69	0.14	0.31	-0.02	-1.50
32	1.30	0.39	-0.00	0.82	-1.47	-0.07	0.70	-0.47	-0.60	-0.88
33	0.72	1.53	1.35	2.00	0.16	-0.65	-0.44	0.56	-0.73	0.12
34	-0.09	-0.68	1.06	0.34	1.19	-1.55	0.27	0.23	2.01	-0.80
35	0.15	-0.12	-0.97	-0.60	0.18	-0.85	2.20	1.12	0.37	-0.11
36	-0.63	1.79	0.79	0.12	-0.89	-0.63	0.41	0.46	-0.38	-1.09
37	2.60	1.08	0.84	-0.10	-0.19	-0.03	-0.97	1.50	0.71	-0.56
38	0.32	0.68	1.28	-1.78	-1.08	-0.85	-1.99	-0.22	0.57	-0.22
39	0.45	0.47	-0.48	0.32	-0.31	2.49	0.11	-1.55	2.64	-1.21
40	0.67	-1.62	-1.02	0.04	-0.62	-0.05	0.45	0.36	-0.29	0.68
41	1.82	-0.90	0.45	0.23	0.38	1.18	-1.72	-0.46	0.87	0.25
42	-0.54	1.09	0.01	-1.33	0.47	-0.46	-0.19	-0.42	-0.94	1.10
43	1.31	0.20	0.13	-0.74	0.55	0.64	-0.75	2.75	-1.48	-0.30
44	0.41	1.45	0.26	-0.92	1.06	-0.70	1.09	1.74	-0.06	-0.05
45	-1.97	-1.10	0.83	-1.26	-1.17	1.32	-1.52	-0.74	-1.42	0.03
46	0.12	-0.88	0.65	0.02	-1.57	-0.20	-0.10	-0.60	-0.02	0.05
47	-0.40	-0.60	0.55	-0.96	-2.03	-0.08	1.87	2.13	0.17	1.41
48	-0.50	-0.39	-1.25	1.19	-0.56	0.46	-0.93	1.22	-1.04	-1.36
49	0.70	0.32	-0.15	0.01	-1.28	1.41	0.49	0.15	0.22	0.19
50	1.90	0.11	1.88	-0.60	0.37	-1.03	-1.12	1.04	-0.13	2.09

$\Sigma(x)$  9.85 -1.66 18.88 8.02 -3.31 2.72 -1.66 5.36 3.56 -2.52  
 $\Sigma(x^2)$  57.4275 31.9422 42.7456 45.0896 47.4811 45.5494 61.8008 53.3652 46.5902 53.8914



## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.59	-0.24	-0.83	0.03	-0.38	-2.19	1.03	0.24	2.53	-0.13
2	1.59	-0.92	-0.71	-0.25	1.69	0.15	0.02	-0.11	-0.91	1.42
3	-1.87	0.29	0.27	1.12	0.58	0.06	0.49	0.90	1.30	1.14
4	0.47	2.48	1.44	-1.14	-0.25	0.17	-0.46	-1.59	-0.50	0.34
5	-0.14	0.62	-0.85	-0.44	-0.71	-0.83	-0.37	0.51	-0.81	1.98
6	-1.32	1.26	0.58	-1.82	-0.63	-1.73	-0.43	-0.79	-1.91	-0.84
7	0.17	0.52	-1.53	1.44	-0.81	-0.13	0.01	-0.34	-0.84	0.81
8	1.38	1.14	1.44	0.62	-0.62	0.94	-0.55	0.39	-0.80	-0.71
9	0.42	-0.41	-0.10	-0.02	-0.35	0.75	-0.10	-0.60	-1.24	-0.00
10	0.69	1.71	0.54	0.74	1.67	-0.10	-0.20	0.86	1.26	0.55
11	0.30	-0.01	1.11	1.08	0.68	-1.25	-0.78	0.11	-0.70	-1.21
12	-1.30	-2.14	0.01	-0.86	1.51	-0.73	0.27	0.28	-0.40	2.41
13	-1.87	-1.07	1.19	-0.33	-0.03	0.50	0.35	0.88	0.23	1.44
14	-0.19	2.11	1.27	-0.47	1.41	-1.64	1.03	0.58	1.19	0.32
15	-0.09	1.38	2.60	-0.07	1.23	0.45	-0.25	1.54	1.13	0.08
16	-0.46	1.31	-0.59	-1.11	0.30	-1.33	-0.60	-0.86	1.93	-1.13
17	-0.92	-0.27	-0.70	-1.95	0.26	1.34	-0.16	0.12	0.09	-0.87
18	-1.35	-0.59	0.98	1.75	1.21	0.60	0.10	0.34	0.75	0.28
19	0.69	0.78	-1.64	0.39	0.49	-0.17	0.36	1.32	-0.62	0.17
20	0.01	-0.23	-0.67	-0.89	0.35	-0.28	0.19	2.22	0.39	0.94
21	-0.24	0.35	-0.04	0.86	-0.24	1.21	0.28	-0.11	-0.50	-0.96
22	-0.46	-0.83	-0.74	1.55	-1.25	1.45	-1.40	1.08	0.19	0.01
23	2.56	-1.09	-0.28	0.34	0.93	1.80	1.07	1.82	0.45	0.57
24	0.25	-2.31	-1.18	0.40	0.04	0.33	0.39	-0.14	0.66	1.20
25	-0.28	-0.64	-1.07	-0.10	-1.25	-0.69	0.24	-1.76	0.52	0.18
26	-1.05	-0.70	-1.24	0.34	0.46	-1.00	-0.97	0.15	0.12	-0.72
27	-0.81	-0.86	-0.48	0.12	1.25	0.22	0.22	-0.30	0.14	-0.16
28	0.19	-1.47	0.44	-0.19	0.19	-1.42	-0.17	1.17	-0.28	-0.40
29	-2.43	1.03	-0.32	-3.46	1.27	-1.73	-0.25	1.19	0.76	0.23
30	-1.45	-0.19	0.05	-0.53	-0.77	-0.75	0.40	-0.36	-0.34	-0.56
31	0.84	-0.09	0.60	-1.06	-1.46	-0.76	1.16	-0.73	0.50	-0.88
32	0.95	-0.18	0.63	-0.59	-1.38	-0.44	-0.08	0.48	-1.18	-0.46
33	0.15	-0.07	0.94	1.11	0.90	-0.24	0.55	-0.73	-1.24	0.03
34	2.61	2.08	-0.95	-1.32	0.24	1.10	1.80	-1.13	1.15	0.02
35	1.44	1.54	-0.29	-0.10	1.58	0.21	-0.45	0.72	-0.14	0.33
36	-1.05	0.35	0.23	-0.11	0.51	-1.35	-0.56	0.87	-0.36	-0.85
37	-0.81	-1.17	-1.57	-1.74	-0.18	-0.20	0.56	0.33	-1.02	-0.98
38	1.46	-0.05	-0.03	0.35	0.13	0.08	-1.08	-0.60	-0.12	1.82
39	-1.56	-1.00	0.64	-0.75	0.12	0.94	-1.17	1.16	-0.07	0.62
40	-1.13	1.43	1.81	-1.32	1.66	0.66	-0.75	0.45	-1.06	0.73
41	-0.02	0.54	0.17	2.13	-1.09	-0.92	-0.05	-1.80	1.16	-0.72
42	-0.63	0.25	-1.69	0.60	-1.09	0.75	1.84	-0.24	1.60	0.26
43	0.45	-0.34	1.25	0.08	-0.53	0.20	-0.37	0.68	0.17	1.94
44	2.64	-0.94	-1.75	0.21	-0.80	-0.68	-0.05	-1.37	-1.85	-0.38
45	0.27	1.27	2.05	-0.71	-0.41	-0.11	-2.18	0.74	0.61	0.03
46	-1.66	-0.16	0.03	0.79	-0.81	-1.51	-0.21	0.23	-0.97	-1.33
47	1.27	1.12	0.53	-1.57	1.30	0.12	-0.68	-0.24	-0.38	0.80
48	0.41	1.62	3.49	-0.05	-0.17	0.00	-0.33	1.84	-0.23	0.79
49	0.86	0.54	1.60	-1.00	-0.38	-1.03	0.98	0.22	-1.12	0.92
50	-0.61	-0.66	-0.84	-0.38	-0.44	0.11	-2.12	0.63	-1.71	1.15

$\Sigma(x)$  -2.22    7.09    5.80    -8.28    5.93    -9.07    -3.43    10.25    -2.47    10.22  
 $\Sigma(x^2)$  67.7930    59.7649    66.5756    55.8684    41.2037    43.8489    32.4817    43.3991    48.0529    42.5116

N.B. See warning as to use, on p. x.

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.88	0.20	1.13	-0.97	0.18	0.79	-0.15	0.78	0.28	0.28
2	0.76	1.02	0.76	-0.83	-0.85	1.08	-0.75	-0.14	1.10	-0.23
3	-1.21	1.49	-0.81	-0.67	0.03	-1.60	0.07	-0.45	1.17	0.60
4	-0.55	-1.05	-1.13	2.13	-0.80	-1.09	-0.73	-2.90	1.03	1.46
5	0.86	2.46	0.89	-0.79	0.16	-0.11	-1.38	0.75	-0.26	-0.68
6	0.42	-0.50	-1.54	0.05	-0.65	-0.50	0.60	-1.95	1.62	0.54
7	1.07	0.37	1.36	-1.16	-1.58	-0.80	0.51	-0.38	-0.44	-0.48
8	-1.27	-1.12	-2.08	-0.09	0.03	0.35	0.08	-0.81	-1.16	0.62
9	-0.39	-0.23	1.56	-0.33	0.20	0.89	0.60	-2.28	0.33	-1.04
10	-0.50	0.68	-0.50	-1.73	0.59	1.84	0.65	0.27	0.95	-0.71
11	-1.53	-0.22	-0.41	-0.17	-1.16	-1.81	-0.62	-0.15	-0.68	0.65
12	0.09	-1.99	1.08	-0.95	0.17	0.46	1.20	1.27	-0.94	-0.09
13	1.38	-0.56	1.35	-0.31	0.08	1.05	1.42	-0.08	0.56	0.44
14	-0.87	1.75	-0.55	-1.15	-0.55	1.14	-0.08	0.10	1.69	-1.09
15	-1.22	0.31	0.26	-0.93	-1.10	-1.54	1.17	-0.75	1.35	0.21
16	0.20	0.72	0.81	1.15	-0.37	1.66	-1.19	1.39	-0.02	-0.64
17	-0.65	-0.63	-1.17	0.51	0.06	-1.39	-1.05	-0.83	-0.14	-0.61
18	-0.05	-0.06	-0.68	1.16	-1.75	-0.27	-0.30	0.42	1.83	1.87
19	-0.27	1.11	1.00	-1.32	0.44	1.02	0.25	0.91	0.44	-0.36
20	1.68	-1.01	0.71	1.03	-0.73	-1.02	0.27	-0.10	-0.17	0.35
21	-1.81	-1.46	0.00	-0.76	1.86	0.21	1.61	-1.34	-1.07	-0.17
22	0.58	-0.57	1.67	0.19	-0.53	1.56	-1.46	-0.70	0.74	1.95
23	-0.81	2.10	-0.02	0.78	0.90	0.59	0.51	-0.38	-0.22	0.30
24	-0.12	1.15	0.27	-0.94	1.57	0.56	0.28	-0.16	1.21	-0.92
25	-0.12	2.24	1.00	-0.67	0.05	-0.47	-1.08	0.10	0.92	-1.16
26	-0.99	-1.61	0.60	-0.23	-0.53	-0.17	0.75	0.44	0.23	0.13
27	0.28	0.21	1.54	0.36	-0.36	0.49	-0.72	-0.49	0.10	0.23
28	-0.76	1.03	-1.12	1.50	-1.02	1.65	1.04	2.11	1.51	1.27
29	0.25	0.15	0.35	-0.04	0.31	1.82	-1.12	-0.19	0.00	1.34
30	-0.29	0.61	1.61	-0.12	0.08	-0.76	0.29	1.67	-1.45	-0.44
31	0.18	-2.44	-0.21	0.65	-0.08	1.06	0.61	1.15	0.96	0.35
32	1.38	-0.24	0.64	0.56	0.54	-0.23	0.50	1.59	-0.77	-0.64
33	-2.29	0.70	1.13	-0.74	0.55	1.48	0.01	-0.58	-1.20	0.12
34	0.48	1.54	0.64	-0.94	0.83	-0.33	-0.67	0.86	0.16	-0.94
35	-1.07	-0.37	-1.41	2.54	-0.69	-0.33	0.09	0.64	-0.75	-0.53
36	0.02	-0.12	0.09	-0.64	0.23	0.64	-0.12	0.15	-0.84	0.57
37	0.78	-0.54	1.44	-0.52	-1.63	1.29	-1.80	0.18	0.65	-0.19
38	-1.14	1.43	-0.10	-0.50	-0.74	-0.11	0.21	-0.02	0.27	0.15
39	-0.33	0.11	-0.18	0.42	0.12	1.38	-0.49	2.24	0.74	2.49
40	0.24	1.01	-0.54	0.98	-1.54	-0.48	0.78	0.49	0.15	-0.07
41	-0.84	2.02	-0.15	-0.68	0.25	-0.50	1.03	-0.12	-0.03	-0.51
42	0.08	-0.57	-0.25	1.08	-1.40	-1.33	-0.07	0.53	-1.10	-1.42
43	0.47	0.52	1.11	-0.78	0.64	0.25	-1.04	0.44	-0.10	-1.29
44	1.31	2.42	1.20	-0.67	-0.22	0.16	-0.64	-0.15	0.73	-0.31
45	0.38	-1.10	0.78	0.32	1.16	-0.14	0.39	2.22	-1.44	-1.07
46	-0.14	0.20	-0.17	-1.57	-0.89	-0.42	2.11	-0.18	-0.66	0.41
47	0.34	0.73	0.42	0.69	-0.92	-0.98	0.19	0.30	1.31	-0.18
48	1.28	0.34	2.04	-1.23	-2.28	-0.05	-0.06	-1.58	-0.49	-0.84
49	1.76	0.41	-1.10	0.25	-0.32	-1.08	1.50	-0.03	-1.66	-0.60
50	0.31	-1.32	0.76	0.06	0.14	-0.39	-1.05	0.38	-0.35	1.03

$\Sigma(x)$  -3.52 11.32 14.08 -6.02 -11.52 5.52 2.15 4.64 6.09 0.15  
 $\Sigma(x^2)$  41.5254 67.2952 49.9562 43.6414 38.3174 48.4752 37.9055 54.5566 41.7983 37.5579

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.27	0.80	-0.22	-1.05	1.35	0.78	-0.56	-1.01	1.12	1.11
2	0.00	0.34	0.06	0.64	0.67	0.32	-2.01	0.15	-0.59	1.73
3	0.64	0.50	0.29	-1.61	-0.30	0.04	0.33	-0.78	0.04	0.36
4	0.81	1.69	0.47	-0.22	-1.08	-2.81	-0.48	-0.29	0.84	1.57
5	0.48	1.54	1.06	-0.65	-0.48	0.53	0.38	-0.11	-0.37	2.83
6	1.91	0.24	-1.16	-2.04	0.70	1.21	0.17	0.46	1.24	-0.16
7	0.12	0.36	-1.64	0.28	-1.81	0.58	0.36	-0.26	-1.38	-2.34
8	-1.32	-0.09	-0.51	1.14	-3.87	0.58	1.60	-0.42	0.63	1.21
9	-0.20	1.55	-0.30	-0.44	0.59	-0.19	0.46	-0.32	0.26	1.23
10	-0.87	0.94	0.38	0.65	0.94	0.32	1.76	-1.77	0.86	1.34
11	-2.61	1.42	-0.55	-0.17	0.50	0.01	-0.39	1.57	-0.19	0.02
12	0.79	-0.86	-0.09	-1.16	0.72	-1.14	0.79	0.69	0.76	0.49
13	-1.27	0.51	1.25	-0.91	-0.42	-0.31	-0.95	-0.37	0.06	-0.11
14	2.33	-0.07	0.58	-0.23	0.47	0.25	-0.79	-0.13	-0.07	-0.06
15	-1.05	0.20	0.14	-0.40	0.61	-0.73	-0.64	1.81	-0.11	-0.40
16	-0.16	-0.50	1.98	-0.63	0.62	-1.64	-0.99	1.34	-0.82	0.33
17	1.23	0.89	-0.50	2.34	0.71	0.52	0.64	-0.79	0.98	0.43
18	1.39	0.56	0.07	0.45	0.67	1.03	0.69	-0.60	0.15	-0.12
19	0.76	-0.09	0.19	-0.86	0.71	-0.55	-0.23	-0.83	0.90	-0.99
20	-0.42	-1.24	1.21	-0.62	0.59	0.11	-0.81	-1.12	0.44	0.06
21	0.20	-2.03	-0.55	-1.29	-1.33	-0.86	-0.56	1.26	0.12	-0.67
22	-0.52	1.69	-1.71	0.57	-1.29	0.51	-1.19	-0.31	0.70	0.95
23	0.44	-0.44	0.54	-0.22	-2.05	0.15	0.04	-0.17	0.91	-1.43
24	1.20	0.69	0.74	1.24	-0.15	0.32	-0.18	-0.38	0.41	-0.22
25	0.42	-0.65	0.13	-1.18	-0.02	-0.94	-0.49	0.30	-0.29	1.25
26	0.31	-0.65	0.07	0.55	-0.19	1.69	-0.79	-0.31	-0.57	0.49
27	0.63	-0.69	0.58	1.32	-2.39	0.37	1.56	-0.43	-0.61	1.19
28	0.07	-0.53	-1.24	0.98	0.60	-0.38	0.94	0.25	-0.82	0.11
29	0.10	-0.27	0.18	1.14	1.64	0.45	0.12	-0.01	0.60	0.59
30	0.62	-0.42	-0.15	-0.24	-0.36	-0.46	1.22	0.22	-0.91	0.46
31	-0.21	0.64	-0.56	0.44	0.80	-0.07	0.14	-0.42	0.28	-1.86
32	-1.39	-2.01	-0.06	0.85	-0.22	-0.29	-2.24	-0.41	-0.13	0.19
33	-1.49	-0.35	-1.40	0.40	-0.56	-1.23	1.57	1.42	0.74	-0.20
34	0.65	0.35	1.05	-2.90	0.64	0.59	0.36	-0.43	-0.06	0.44
35	0.02	-1.53	-0.08	1.10	1.93	0.72	0.60	0.59	1.05	1.75
36	-0.43	-0.99	0.35	0.04	0.65	1.19	-0.70	-1.12	-0.94	0.41
37	-2.27	0.85	-1.28	-0.74	0.89	-0.16	-0.18	-0.27	-0.74	-0.83
38	-0.21	-0.31	0.82	0.72	0.64	0.92	1.56	-1.33	-0.28	1.11
39	0.17	0.64	0.51	0.57	0.09	-0.11	1.26	-1.00	1.02	0.25
40	0.53	0.67	1.06	1.30	-0.94	0.18	-0.42	-0.78	-0.23	-1.25
41	-0.74	0.52	1.14	-0.93	1.05	-0.66	2.05	1.69	0.06	-1.53
42	-0.30	-0.04	-0.59	-0.58	0.19	0.61	-1.48	-1.08	0.80	0.96
43	-2.33	-0.64	2.18	0.86	-1.17	-0.27	0.65	0.33	1.32	0.82
44	1.98	0.71	1.89	0.73	-0.59	0.14	-1.53	1.08	0.13	0.78
45	1.95	0.57	1.94	1.16	-0.31	-0.31	1.08	0.38	-1.43	-0.84
46	0.36	-1.03	1.26	0.08	-1.29	0.51	-0.62	0.96	-0.28	1.95
47	-0.67	-0.95	1.08	-0.42	0.44	0.49	-2.18	2.33	0.20	-1.01
48	1.67	1.57	1.61	0.22	-0.96	0.51	-0.91	-1.72	-0.72	-0.06
49	0.17	-0.35	-1.59	0.96	1.09	-2.25	0.48	0.82	-0.95	-0.06
50	0.54	-1.46	-0.00	1.67	-0.58	1.71	0.50	0.16	-0.23	-0.11

$\Sigma(x)$	2.82	2.25	10.63	2.91	-1.86	1.98	-0.01	-1.16	3.90	12.16
$\Sigma(x^2)$	59.7444	43.0609	48.7445	51.2149	58.9540	37.5954	53.0799	41.9186	24.9200	54.6422

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.45	-1.12	-1.96	-0.35	0.83	1.88	0.88	-0.25	1.75	-0.56
2	-0.18	-0.19	-0.15	0.04	0.02	-0.33	-0.82	0.96	0.84	-0.96
3	-1.77	-0.10	0.89	1.89	-0.65	-0.40	1.30	0.44	-0.39	-2.13
4	0.69	0.54	-1.61	-0.23	-1.03	1.49	-0.31	-0.32	-0.45	0.94
5	-0.82	1.60	0.00	-1.30	-1.08	-0.07	-0.33	0.03	-1.29	-0.63
6	0.53	-2.36	-0.20	0.31	1.77	0.97	-0.38	-0.12	-0.68	0.64
7	0.02	-0.67	-0.26	-0.10	1.25	1.30	-1.49	0.10	1.33	-0.21
8	-1.83	0.53	-0.22	1.96	2.30	0.18	0.07	-0.73	1.58	-1.20
9	-0.27	0.47	0.18	1.42	0.77	0.10	-0.32	0.77	-2.08	-0.26
10	2.13	0.68	0.55	-0.02	0.22	-0.72	1.36	-0.19	-0.21	1.30
11	0.93	0.52	-0.83	0.92	-0.96	0.31	0.04	-1.80	-0.17	-1.35
12	0.95	0.64	-0.33	-0.77	-1.18	0.73	-1.57	0.23	1.49	-1.44
13	0.01	0.17	-1.27	-0.42	2.12	0.07	0.96	-1.24	0.96	0.64
14	0.26	-2.91	0.88	0.39	-0.06	-0.18	2.68	-0.65	1.39	1.02
15	1.16	0.14	0.56	-1.65	1.41	1.35	-0.13	0.81	0.24	-1.19
16	1.65	-0.57	0.14	0.16	-0.07	-0.47	-0.15	0.36	0.77	0.75
17	-0.86	0.96	0.37	0.39	-0.45	0.10	0.40	-1.31	1.23	-0.49
18	1.92	0.37	-1.57	1.10	0.33	0.25	0.26	-0.91	0.75	-1.24
19	-1.32	0.77	0.53	0.75	1.46	0.53	-1.01	0.44	2.61	0.75
20	0.74	-0.82	0.47	-1.47	1.00	-1.11	-0.20	0.27	0.17	-0.10
21	-1.23	0.65	-0.81	0.73	-0.31	-0.49	-0.91	-0.36	-0.97	0.19
22	0.45	1.72	0.99	-0.36	-0.77	0.35	-1.09	-0.45	-1.21	1.08
23	1.10	-1.07	0.24	0.53	-0.82	-0.80	0.85	-2.12	1.56	-0.71
24	0.32	1.67	-2.32	0.15	1.64	0.73	-0.31	0.71	-0.71	-0.80
25	0.83	-0.54	0.94	2.98	0.55	1.04	0.92	-1.81	-1.67	0.14
26	0.07	0.03	-0.22	0.76	0.05	-0.36	0.50	1.83	-1.48	-0.80
27	-0.68	0.75	-0.96	0.16	-0.60	1.23	0.56	0.43	-0.72	0.31
28	-1.07	-1.01	0.69	0.08	-1.32	-0.54	-1.57	0.48	0.60	-1.32
29	-1.47	-0.82	3.63	0.72	0.98	-0.42	-0.30	-0.05	0.23	-1.44
30	-0.43	0.64	0.31	-0.09	1.82	-0.08	0.01	-1.17	0.71	0.93
31	2.79	-0.63	0.29	-1.23	-0.46	0.79	1.87	0.49	-0.48	0.54
32	0.15	-0.10	-0.46	0.72	-1.06	0.06	-0.09	-0.69	-0.59	-1.32
33	1.32	0.05	2.91	-0.42	-1.44	-0.64	-0.48	-0.80	0.94	-0.44
34	-0.09	-0.02	0.96	-0.02	0.06	0.63	1.19	-1.77	1.49	2.44
35	-1.81	0.08	0.22	0.47	-1.09	0.59	-0.59	0.07	1.45	0.64
36	1.96	-0.47	-0.07	-0.02	0.01	-0.57	-0.46	0.06	-0.76	-0.13
37	0.23	-0.88	-0.48	0.66	0.33	1.15	0.60	-0.82	0.99	-1.66
38	-0.84	-1.48	-0.01	0.20	1.68	-0.20	-0.95	2.10	-0.44	-0.23
39	0.94	-0.30	-2.35	-1.46	0.41	-1.26	0.83	0.40	-0.30	-0.08
40	1.37	0.32	-1.90	-1.12	-1.74	-0.96	0.09	-0.09	-0.86	-0.23
41	-0.49	-1.36	-1.05	-0.34	1.20	-0.76	0.69	-0.25	0.34	0.53
42	0.56	1.04	2.30	-0.75	-0.05	0.49	1.12	0.56	1.13	0.96
43	0.38	0.92	-0.10	-1.01	-1.16	0.39	1.19	0.54	0.43	-0.63
44	1.22	-0.09	0.70	-0.04	0.14	0.41	-0.59	0.31	-0.57	-0.61
45	-0.26	1.75	0.32	0.89	0.68	-1.56	-0.04	1.65	-2.33	-0.85
46	0.08	-0.84	0.04	-0.04	-1.22	-1.25	-0.97	0.44	-1.58	2.14
47	-0.57	0.46	0.39	-0.20	-0.29	0.00	-0.15	-2.02	0.80	1.33
48	0.28	-0.30	1.03	0.18	-0.69	-0.96	-1.32	-3.37	1.46	-0.44
49	-1.65	1.59	-0.62	-0.69	-0.68	-0.05	-1.82	2.32	0.88	-0.43
50	-0.14	-0.14	0.85	-1.48	-0.72	-1.10	1.10	1.01	0.10	-0.81

$\Sigma(x)$  6.81 0.27 1.63 2.98 3.13 1.84 1.12 -5.48 8.28 -7.42  
 $\Sigma(x^2)$  58.6499 47.4493 65.4581 42.5108 53.9721 31.4962 44.7558 60.3268 63.0612 49.7146

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.40	0.13	-0.78	0.33	0.23	1.17	0.67	-1.70	-0.38	-0.71
2	-0.28	0.08	0.41	0.62	3.47	0.57	-0.61	-0.02	1.06	0.65
3	1.23	0.11	0.25	-1.29	-0.89	-1.78	0.12	-0.03	-1.28	0.47
4	0.90	1.23	0.78	-0.22	-0.14	0.97	-0.81	-1.20	-0.93	-0.47
5	-1.00	1.76	0.45	-0.96	-0.41	-0.00	0.52	0.09	-0.89	0.36
6	0.34	0.71	0.29	1.25	0.09	0.14	-0.43	-0.15	2.10	1.15
7	0.81	0.32	0.33	-0.48	-2.11	0.15	-0.92	-0.16	-0.50	-1.04
8	-0.10	1.30	0.16	-1.30	-0.49	-0.74	-0.29	-0.74	0.25	0.30
9	0.98	0.34	0.40	-1.07	-0.93	-1.11	0.86	0.16	-1.43	-0.99
10	0.55	0.66	1.34	0.36	1.02	1.34	-1.35	0.31	1.21	-1.33
11	0.81	0.39	0.64	0.07	1.21	-1.25	0.86	-0.71	1.70	0.17
12	-0.35	0.52	-1.98	-0.68	0.89	-0.51	-0.62	-0.29	-0.14	1.49
13	-0.31	0.05	-0.19	0.36	-1.79	1.01	0.79	-0.00	-0.43	-0.01
14	0.15	0.10	0.46	0.02	-0.91	2.73	-0.51	0.78	0.31	-1.31
15	0.10	-1.40	-0.07	-1.43	1.34	-1.93	-0.30	0.43	-1.90	-0.45
16	0.99	1.08	0.47	-0.48	-1.88	-0.08	0.10	0.14	-0.19	-0.77
17	-0.43	-0.36	-0.28	0.35	1.20	-1.10	-1.75	0.54	-0.76	1.73
18	-1.43	0.43	-0.07	1.71	-0.54	1.59	-1.12	2.67	-0.75	1.78
19	-1.57	1.26	-0.21	-0.48	-0.21	-1.05	-0.21	0.35	-0.13	0.21
20	0.12	-0.61	-0.24	0.01	-0.27	-0.56	2.38	-1.41	0.69	-0.35
21	1.01	0.26	-0.53	1.45	0.70	-1.13	-0.64	0.28	1.70	0.62
22	-0.32	-0.14	1.59	0.59	-1.37	0.76	-0.98	-0.81	0.46	-0.24
23	-0.97	-0.69	0.79	0.11	0.04	-0.55	0.25	0.58	0.47	-1.19
24	-0.95	0.07	0.33	1.28	-0.80	0.26	-0.19	-0.05	0.44	-0.34
25	-1.50	0.27	1.69	0.93	-1.38	0.40	-1.18	1.11	1.05	1.80
26	-0.13	-0.45	1.01	-0.74	-0.98	-0.66	-0.43	0.26	-0.01	-1.25
27	-0.25	1.07	-0.68	-0.28	0.44	-0.63	-0.84	-0.44	0.71	1.39
28	-1.07	0.21	-0.73	-0.79	-1.07	-0.04	1.50	-1.52	0.12	-0.98
29	-1.42	0.47	-0.42	-0.66	-0.48	-0.26	-1.63	-1.81	0.31	-0.74
30	-0.33	-1.56	-1.42	-0.85	-0.46	-0.94	-1.39	0.22	-0.76	0.05
31	0.92	-0.65	-0.26	-1.52	-2.09	-0.95	1.52	0.24	0.43	1.48
32	-0.77	-0.28	1.01	-0.37	-1.23	-1.38	-1.93	-1.11	1.40	1.63
33	1.14	1.84	0.30	-0.26	0.55	0.22	-0.74	-0.99	0.19	-0.43
34	1.69	-1.19	-0.76	1.02	0.43	-0.18	0.93	-0.94	0.37	-0.05
35	0.31	1.06	0.13	-0.87	0.17	1.78	0.11	-0.22	-1.57	1.22
36	-0.24	-0.62	-0.25	-0.35	-0.22	0.64	-0.28	0.40	0.54	2.00
37	-0.02	-2.07	-1.73	-0.12	-0.22	-1.72	-0.84	-0.10	-0.89	0.91
38	-0.74	-0.92	1.59	-0.09	0.34	-1.03	-0.84	-0.00	0.27	1.25
39	-0.56	-0.50	-1.11	-1.73	0.77	0.89	0.96	0.78	-0.06	0.95
40	-0.11	0.06	-0.54	-1.13	-0.16	-0.09	0.22	-0.05	0.48	0.51
41	-0.44	0.05	1.74	-0.08	1.14	-0.81	-0.32	1.26	0.95	1.11
42	1.29	0.97	2.19	0.55	0.08	-1.60	-0.43	0.01	-0.56	-1.76
43	0.31	-0.52	-1.29	2.64	0.58	0.23	-0.91	1.38	-0.58	2.92
44	-1.05	-0.32	-1.18	-1.29	0.57	-1.35	-1.02	-0.63	-1.55	0.78
45	0.04	0.26	-0.35	0.21	0.11	-0.12	1.19	0.91	0.30	0.21
46	2.75	-0.94	0.66	-0.36	0.77	-1.46	1.02	1.42	-0.40	0.26
47	-0.20	-0.90	3.60	1.30	1.98	-0.09	-0.73	0.49	0.30	-1.82
48	-0.79	0.73	-0.59	-0.51	0.34	1.41	1.17	0.41	-0.81	1.10
49	-0.09	-0.30	-0.78	1.21	1.13	1.04	-0.42	0.82	-0.01	0.19
50	0.02	-0.45	0.11	1.03	1.00	1.00	0.72	1.85	1.06	2.31

$\Sigma(x)$  -1.36 -1.62 6.28 -2.99 -0.44 -6.80 -8.77 2.81 1.96 14.77  
 $\Sigma(x^2)$  38.6832 34.1146 53.6652 43.7271 56.9134 55.3720 45.2919 39.4099 39.3238 65.5955

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.29	-1.44	-0.58	0.11	-0.24	-0.42	-0.52	-0.75	-0.34	-1.04
2	-0.10	-0.80	0.21	-0.96	-0.24	-0.78	-0.09	0.57	-0.28	-0.10
3	-2.82	-0.55	1.16	-0.11	0.76	0.64	-0.28	1.37	3.48	0.05
4	-1.70	-1.40	0.15	0.90	-0.94	0.13	-0.15	0.83	-0.11	-0.90
5	0.55	3.18	-0.89	0.04	0.24	-0.40	-1.04	1.42	1.49	-0.90
6	-1.09	1.26	-1.35	-0.62	-0.62	-0.37	0.95	1.88	-0.02	-0.48
7	-0.35	-1.39	-0.38	-1.18	-0.17	0.45	0.66	-1.39	-1.73	-0.31
8	0.42	0.34	-0.17	-0.91	-0.50	0.25	1.69	-0.91	1.09	-0.76
9	-0.34	0.46	-0.04	0.56	0.23	0.26	0.88	-2.02	0.89	1.62
10	-0.24	-1.78	1.27	0.17	-1.62	0.14	0.28	-0.19	-0.90	1.59
11	1.84	0.85	1.87	0.13	-0.04	-1.74	-0.54	0.44	-1.56	-1.44
12	0.08	1.17	-0.61	0.68	-0.02	-1.43	-0.91	-0.57	1.78	0.88
13	2.08	0.29	-1.27	-0.25	-0.37	-0.27	0.16	-0.33	-1.50	0.12
14	-1.14	-1.20	-0.78	-0.59	-1.44	1.85	-0.50	1.04	0.51	-0.33
15	-0.56	0.68	0.21	-0.51	0.30	-0.28	0.21	0.22	-0.90	-2.92
16	0.57	-0.95	-1.15	-0.80	-1.18	-0.09	1.14	-0.13	-0.66	1.16
17	0.82	-0.96	-1.88	-0.29	-1.45	0.26	-0.40	0.63	0.24	0.73
18	-0.30	-0.44	-0.25	-0.12	-0.70	0.86	-0.16	-0.56	-0.93	0.44
19	1.16	1.39	0.77	0.72	-0.45	-0.69	1.84	0.72	1.16	-1.44
20	-0.58	-0.17	-0.35	-1.17	-0.00	-0.23	1.27	-1.64	2.03	-0.82
21	0.21	0.68	0.54	-1.43	-2.23	1.91	-2.28	0.73	-1.58	0.14
22	0.55	0.11	-0.18	0.13	-0.08	-1.24	-1.62	0.49	3.01	1.61
23	1.06	-1.35	0.08	0.81	1.55	-0.19	-0.24	-0.37	1.30	1.24
24	0.47	0.46	-1.03	-0.08	0.26	-0.86	-0.29	0.44	-0.39	-0.38
25	0.81	-0.08	1.54	-0.81	-0.58	0.99	0.36	-1.18	0.39	0.36
26	0.39	-0.73	-0.20	0.52	-0.50	0.23	-1.49	-1.70	-1.44	-0.72
27	-0.34	-0.33	1.48	-0.26	0.57	-1.73	0.34	1.60	-0.43	-0.07
28	0.44	-1.28	0.98	-0.60	-1.07	-0.70	0.36	-0.11	-0.48	0.46
29	-0.05	-2.45	-0.31	-0.39	-0.89	0.53	1.30	-1.04	-1.64	-0.75
30	-0.67	-0.09	0.41	0.61	0.11	0.74	1.45	-0.06	0.21	-0.19
31	-0.95	0.24	2.67	0.58	-1.43	0.37	-1.72	-0.90	-0.18	-1.00
32	1.24	0.94	0.01	0.61	-1.98	-0.44	-0.43	-1.16	0.23	-0.25
33	0.02	0.54	-0.99	-0.06	-0.47	-1.14	-0.07	0.55	-1.23	-0.55
34	0.17	-0.01	0.17	1.66	-1.77	-0.33	-3.06	1.32	0.24	-1.83
35	-0.34	1.71	0.94	0.42	0.14	-0.21	-0.54	0.81	-0.23	-1.52
36	0.29	0.27	0.11	1.85	-0.91	0.29	0.80	-0.23	0.09	1.11
37	1.11	0.61	-0.19	-0.01	0.20	-0.64	0.20	0.38	-0.03	-0.48
38	-0.59	0.47	0.58	0.22	1.57	0.92	1.21	2.55	0.67	-0.68
39	-0.42	1.08	0.18	1.12	0.42	-0.58	1.69	-2.08	0.19	0.51
40	-0.32	-1.19	0.68	-0.32	-0.50	0.71	-0.40	0.16	0.02	0.59
41	-0.36	0.80	0.32	1.51	-0.20	-1.25	1.90	-1.25	0.08	0.26
42	1.19	0.63	0.54	0.40	-1.04	0.55	-0.33	0.03	0.59	1.07
43	0.06	0.31	0.91	0.49	2.16	0.09	1.17	-1.10	-0.48	-0.50
44	-0.26	-1.61	0.48	-1.00	1.73	-0.16	1.83	0.26	-0.62	-1.57
45	-1.94	1.33	2.00	0.80	-1.25	-0.20	-0.44	0.63	-0.43	-0.09
46	0.19	-0.03	1.00	-1.73	0.29	-0.13	-0.30	-0.59	1.15	1.16
47	1.47	0.50	0.51	-0.11	-1.48	-0.34	-1.21	0.20	0.37	-0.17
48	-1.05	0.28	0.38	-0.71	0.23	-0.48	0.65	0.02	0.78	1.01
49	1.59	-0.53	-1.82	-1.65	-0.52	-1.01	-0.81	0.36	0.18	-0.95
50	-0.40	1.51	0.74	-0.56	0.75	0.38	0.65	0.24	1.20	0.53

$\Sigma(x)$  3.16 1.33 8.47 -2.19 -15.37 -5.78 3.17 -0.37 5.28 -6.50  
 $\Sigma(x^2)$  45.7362 56.7559 45.7561 32.4205 48.3753 30.5866 58.4321 50.3387 61.7376 47.9142

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.41	-1.54	-2.22	-2.24	0.44	0.54	-0.28	-0.46	-1.00	-0.00
2	0.10	-0.56	1.66	-0.55	-0.94	1.52	0.45	0.13	-0.42	0.34
3	1.91	-0.21	1.13	1.12	-0.35	0.89	-0.49	-0.80	0.57	0.54
4	-0.87	1.04	0.13	-1.08	0.91	-0.61	-0.57	1.22	0.76	0.62
5	0.58	-1.11	0.05	-1.44	-1.93	-0.84	1.68	1.98	1.28	0.98
6	1.32	1.45	-0.21	-0.86	-1.43	-0.56	1.13	1.17	1.75	1.09
7	1.12	-2.78	-0.94	1.38	-0.87	-0.47	0.60	-0.44	-0.90	0.90
8	0.97	-0.03	1.19	-1.79	-1.36	-0.00	-0.41	0.15	-0.71	0.92
9	-0.23	-0.31	1.34	1.43	0.46	0.48	0.81	-1.19	0.31	-0.25
10	-0.13	0.29	0.42	1.70	-0.13	0.41	1.26	0.59	0.39	-1.79
11	-0.28	-1.60	-0.59	0.32	-0.98	0.18	1.06	-0.41	-0.55	0.71
12	1.12	0.12	1.01	0.18	-0.05	0.32	0.30	-2.09	0.54	0.20
13	0.27	0.61	2.42	-0.53	-0.42	1.11	1.21	1.03	1.31	1.22
14	-0.24	0.57	-0.60	-2.01	-1.00	0.34	0.98	1.04	1.01	0.76
15	1.23	0.27	-1.81	0.65	-0.21	-0.48	1.58	0.37	-1.19	-0.24
16	0.31	-1.11	0.06	0.49	-1.09	0.37	-0.09	-0.69	-0.26	-1.27
17	-1.74	1.65	-0.11	-1.07	0.11	1.50	1.35	0.56	0.65	-0.23
18	0.96	-0.91	0.23	0.12	0.47	-1.99	-0.90	2.00	1.48	1.73
19	0.67	-0.23	-1.29	-0.48	1.45	-1.20	0.69	-0.62	-1.85	-0.14
20	-1.23	0.68	0.07	0.77	-0.50	-0.68	1.40	0.13	0.67	2.07
21	2.95	-0.98	0.20	0.34	-0.32	-0.80	-0.45	0.87	0.99	0.59
22	0.91	0.36	-1.65	-0.40	-0.16	-1.21	0.77	1.90	-0.19	-1.22
23	0.49	0.22	0.15	-0.39	1.65	1.71	0.21	0.56	0.01	0.10
24	-0.62	-0.34	-1.94	0.16	0.13	1.63	-0.05	-0.81	0.88	0.73
25	1.13	-0.30	-0.81	1.41	1.13	-0.12	-0.08	-1.01	0.24	-0.55
26	-0.55	-0.38	-0.10	-0.01	-1.74	1.70	-0.66	-1.74	0.53	-0.15
27	-0.51	-1.77	-0.17	-0.32	-0.83	-1.31	0.74	-0.66	-0.35	-0.56
28	-1.45	0.32	0.54	0.57	-0.59	-0.43	2.00	-0.57	0.96	-1.10
29	-1.01	-0.47	0.17	-0.50	-0.82	-1.86	0.10	-0.35	-0.55	0.76
30	0.04	-0.11	0.37	-0.44	-0.68	0.54	-1.54	0.02	-1.03	-0.34
31	-0.20	-0.10	-0.20	1.11	-0.65	-0.73	0.14	0.19	0.15	1.24
32	-0.26	0.06	0.75	-1.18	-0.05	0.94	-0.79	-1.36	1.82	-0.81
33	0.84	0.90	0.79	1.36	0.97	-0.09	-1.17	-1.36	1.14	0.34
34	-0.83	-0.67	1.00	1.22	-0.99	0.67	0.30	0.17	0.70	0.22
35	0.54	-0.73	-1.28	0.37	-0.12	0.45	0.04	0.08	0.98	-1.41
36	0.85	-0.34	-1.64	1.43	0.41	1.01	0.77	-1.90	0.40	0.47
37	-1.18	-0.97	-0.87	-0.38	-1.35	0.43	0.34	1.36	0.65	-0.07
38	-0.45	-0.95	-1.26	-1.49	-0.97	1.22	-0.64	1.18	-0.82	-1.08
39	-1.79	-0.31	-0.84	1.00	1.25	-0.14	-0.77	0.79	-1.68	0.26
40	0.03	0.29	-1.57	0.99	-0.73	0.29	1.71	2.05	0.48	0.13
41	0.17	-0.92	0.85	-0.54	-1.51	-0.36	-1.62	-0.04	0.90	0.33
42	-0.93	0.54	1.63	0.96	1.12	0.70	0.07	0.16	-0.26	-0.90
43	0.90	-0.02	-0.62	-0.92	0.12	0.55	-0.72	-0.55	-0.87	-0.17
44	-1.93	0.87	-1.09	-1.11	0.07	1.42	0.83	0.23	-1.30	-0.11
45	-0.48	0.56	1.43	-0.11	-0.07	1.00	-0.48	1.83	-1.09	-0.18
46	0.10	0.92	-0.98	0.16	-0.00	-0.29	0.40	0.56	-1.10	0.32
47	-1.96	-0.03	-0.65	0.06	0.56	-1.12	0.67	-0.16	-0.99	-0.24
48	-0.99	-1.45	1.87	-1.96	-0.58	-0.06	-0.32	0.03	0.05	0.26
49	-0.79	1.97	-0.81	-0.91	-0.42	-0.06	-0.21	0.63	-0.19	1.84
50	1.41	-0.20	-1.16	0.90	0.20	0.40	-0.97	-0.49	-0.48	0.42

$\Sigma(x)$  -0.14 -7.74 -5.95 -2.51 -12.39 6.91 10.38 5.28 3.82 7.28  
 $\Sigma(x^2)$  53.4482 41.6782 59.5433 52.3125 37.7457 41.9261 39.6440 52.0586 41.5414 35.0196

First Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	-0.48	-1.34	-0.37	-0.72	-0.90	1.38	-0.03	1.11	0.40	0.14
2	0.62	-1.02	-0.43	-0.09	-0.24	0.52	-0.17	-1.75	-1.45	1.00
3	0.53	-0.85	-0.93	0.04	-0.20	-0.25	0.30	0.60	0.40	-0.54
4	-0.14	0.30	-0.03	0.90	2.00	-1.03	-0.21	2.04	2.01	0.04
5	0.61	-0.49	-1.20	-0.70	-0.42	-1.09	-0.94	0.72	-1.43	0.25
6	-0.77	-0.48	0.40	-0.39	0.35	0.25	0.47	0.94	0.31	2.50
7	-1.58	-0.39	0.98	0.05	-1.02	-1.13	0.27	0.97	-1.08	-0.29
8	-1.42	-0.20	-0.19	-0.53	0.75	1.28	0.17	-0.24	-0.40	-0.38
9	1.80	0.57	0.22	-2.39	0.02	1.33	-0.94	0.62	-0.27	0.07
10	-0.70	0.63	-0.04	0.04	0.12	1.83	2.17	0.39	0.82	0.00
11	1.33	0.18	1.62	-1.65	-1.23	1.00	0.77	-0.83	0.00	-0.21
12	2.34	-1.01	0.27	-1.27	0.50	1.40	0.88	1.72	0.90	-0.75
13	0.04	1.28	1.45	-2.39	1.34	0.04	-0.10	-0.92	1.10	0.36
14	-0.62	-0.92	-0.06	0.62	-0.13	-0.18	0.18	-0.55	0.88	-0.15
15	-0.53	-0.67	-0.56	0.00	-2.35	2.24	-1.11	0.37	0.24	0.51
16	-1.07	-0.39	1.25	-0.90	-0.86	1.40	-2.06	0.39	-0.35	0.71
17	1.19	0.33	0.58	0.15	-0.08	-0.42	0.15	0.36	0.42	-0.97
18	-1.55	-0.60	-0.82	0.23	0.67	0.40	1.58	-0.04	-0.26	-0.89
19	0.63	-0.05	-0.50	0.84	-0.24	0.31	2.10	1.29	-0.45	1.16
20	-0.56	-1.70	-0.23	-1.81	0.69	-0.12	1.03	0.33	0.24	1.32
21	-0.02	-0.05	-1.44	-0.31	0.60	-1.37	0.13	-0.25	0.76	0.64
22	-1.39	0.12	0.32	0.26	-0.26	-0.86	1.53	0.41	1.37	-0.23
23	-0.28	0.14	1.71	-0.20	-1.07	0.09	1.42	1.74	0.52	-0.49
24	0.48	0.10	-1.37	0.76	0.26	-0.74	1.23	0.01	-1.75	0.73
25	-0.26	0.36	-0.24	-0.19	0.48	-0.81	0.23	-1.35	-0.93	-0.42
26	-0.65	1.45	0.86	1.72	2.05	0.40	0.07	-0.61	1.45	0.19
27	1.21	-0.38	-0.44	1.19	0.53	0.19	-0.44	-0.29	-2.10	1.75
28	-0.46	1.06	1.48	0.45	2.21	-0.15	0.87	-0.32	-0.22	0.83
29	1.95	0.23	0.44	-0.37	-0.89	-0.67	-0.86	-0.22	0.82	-0.85
30	1.22	0.93	-2.04	-0.22	0.04	0.01	-1.77	-0.09	-0.53	0.57
31	-0.30	0.60	-0.76	0.27	-0.56	-0.20	-1.02	1.46	0.26	-0.82
32	1.45	-0.97	0.49	-0.51	-0.10	0.11	1.10	-0.99	0.60	0.63
33	-1.04	-1.72	0.24	0.15	0.31	0.42	-0.41	-0.41	1.41	0.92
34	0.38	-0.29	1.40	0.34	0.35	-3.18	0.32	-0.40	-1.04	0.62
35	0.58	-0.32	0.77	0.12	-0.35	-1.03	-0.00	1.28	0.41	0.32
36	-0.66	1.95	-0.95	-0.16	0.65	0.97	-0.30	-0.12	1.97	-0.51
37	-1.41	0.56	-0.08	1.16	-0.65	-1.00	-2.81	0.20	-0.79	1.26
38	1.45	0.70	0.80	-0.07	0.75	0.18	-0.89	-0.54	1.18	-0.52
39	-1.74	0.44	0.05	0.80	-1.17	0.20	-0.10	-0.79	1.61	0.27
40	2.09	0.46	-0.84	-1.18	-2.30	-0.15	0.35	-1.62	0.11	0.50
41	-1.31	0.23	-0.53	-0.54	0.90	-1.09	-0.64	-0.73	-1.29	-0.52
42	-1.67	-1.72	0.54	-1.00	-0.50	-1.37	1.42	0.26	1.28	0.86
43	-0.51	-0.15	0.45	-0.17	-0.68	0.22	-1.11	-0.05	0.02	0.58
44	-0.06	1.69	1.27	-2.54	1.38	1.01	-0.14	0.22	1.56	-0.09
45	-0.05	-0.84	-0.19	-2.45	0.37	1.06	-0.64	-0.68	-0.54	1.67
46	-0.04	0.44	1.68	-0.24	-0.19	-1.75	0.42	1.74	1.44	1.64
47	1.20	0.50	-1.11	-0.31	-0.86	-0.55	-0.99	1.07	0.97	0.66
48	1.39	-0.65	0.13	-0.55	1.05	-1.13	0.74	0.37	-0.65	0.06
49	-0.19	0.81	1.32	-1.44	1.77	0.48	0.29	1.39	-0.47	0.50
50	1.26	0.86	-0.02	-0.15	-0.11	1.36	-0.34	-0.16	2.03	-1.23

$\Sigma(x)$  2.29 -0.08 5.35 -15.35 2.78 -0.19 2.17 8.05 11.49 13.40  
 $\Sigma(x^2)$  58.8519 35.4074 40.2621 49.0769 47.0004 52.9129 50.0285 40.4921 54.2943 34.3280



## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.69	-1.35	-1.83	0.02	0.10	-0.07	0.69	-2.73	2.21	0.24
2	1.40	-1.80	0.14	1.46	-1.28	1.09	-1.56	-2.58	-0.32	1.00
3	1.79	-2.66	-0.69	0.40	-0.23	0.89	1.20	-1.11	-0.76	1.04
4	-0.83	-0.04	0.85	0.69	1.17	0.17	1.37	1.03	0.61	-0.34
5	0.34	-0.87	0.71	-1.30	2.71	-0.28	-0.02	0.46	0.75	-0.77
6	0.19	-1.04	-0.36	-0.98	0.80	-1.16	-2.87	-1.93	1.15	0.91
7	1.46	0.87	-1.65	3.01	0.73	-0.64	-1.74	-0.75	-0.73	-0.45
8	0.21	-1.31	-0.43	-1.69	-2.06	-0.49	-0.81	-0.44	0.68	-1.51
9	0.73	-0.54	0.54	0.39	0.25	1.50	-0.10	-0.77	1.96	-0.19
10	-1.00	0.64	0.72	1.22	0.08	-0.00	-2.17	0.90	1.61	1.16
11	0.81	0.64	-1.98	0.21	0.70	-2.95	0.66	0.95	-0.51	-1.15
12	0.01	-0.47	1.65	1.43	-2.41	0.83	-0.42	-0.14	-0.12	-0.98
13	-1.13	1.32	0.76	0.17	0.76	2.17	0.10	-0.44	1.06	-1.56
14	-1.53	-0.03	0.10	0.88	-0.78	0.20	0.48	-1.21	-0.56	-0.51
15	-0.07	2.49	-0.76	-0.94	-0.06	-0.94	2.92	1.20	-0.43	-1.42
16	-0.22	0.33	1.08	-0.44	-0.09	-0.58	-1.29	0.11	0.21	-1.52
17	-0.50	-0.03	0.88	0.03	-0.33	0.78	1.24	0.70	1.31	0.31
18	-1.59	-1.31	0.76	0.20	-0.14	0.64	0.76	-0.20	0.92	0.69
19	0.82	0.19	-1.42	-0.26	1.03	0.82	1.37	1.11	-0.26	-1.62
20	0.71	0.92	-0.78	-0.07	0.90	-1.00	-0.49	0.90	1.09	-0.65
21	1.37	1.57	0.50	-0.48	-0.29	-1.14	-0.03	-0.20	-0.93	-1.07
22	0.90	-0.19	-0.28	1.23	-0.98	1.20	0.62	-1.04	-0.26	1.39
23	0.74	0.16	-0.92	0.50	1.28	-0.20	0.32	0.04	0.48	-0.39
24	-0.83	-0.18	0.69	1.09	-0.80	1.03	-1.12	0.29	-0.17	-0.59
25	0.25	0.08	-0.67	-0.31	0.06	-0.76	-0.59	-0.39	1.29	-0.10
26	0.30	1.53	2.14	0.73	-0.15	-0.82	-0.41	0.37	-2.12	1.32
27	0.15	-2.17	1.02	1.48	1.79	-0.97	-1.39	-0.31	1.06	1.00
28	-0.19	0.58	0.13	-1.84	-1.41	-1.08	0.95	0.56	1.28	0.47
29	1.75	-0.27	-0.85	-0.11	0.31	-0.59	-1.22	-1.69	-0.28	0.91
30	0.20	-0.59	-0.06	-0.04	-0.78	-0.31	1.04	0.09	-1.01	-0.16
31	1.27	-1.34	1.49	0.93	0.11	1.60	0.69	-0.28	0.74	1.66
32	-0.59	0.92	-0.50	0.71	1.48	0.19	1.97	0.43	1.19	0.49
33	0.15	-0.12	1.33	-0.94	0.44	1.52	-1.55	-0.91	0.36	-0.49
34	-1.37	1.46	-0.26	-0.49	0.18	0.36	-0.29	-1.27	0.06	-0.64
35	-1.91	0.70	0.44	2.04	-0.01	-1.70	-1.15	0.94	-0.69	1.69
36	2.26	0.99	-1.43	0.70	0.16	1.03	0.03	1.19	0.01	0.49
37	-0.09	0.40	-0.19	-0.17	1.06	-0.25	1.82	0.61	1.06	1.35
38	1.03	-2.14	-0.77	0.31	-0.72	-1.24	-0.84	1.13	-0.86	0.08
39	-0.08	-0.79	1.88	-0.45	-1.19	-0.68	0.49	-1.50	-1.24	-1.32
40	-0.57	0.60	-0.79	1.24	0.96	-1.02	2.14	1.48	-0.47	0.62
41	-0.34	0.08	-0.22	1.14	1.69	-1.56	-0.95	-0.70	0.65	-2.00
42	0.03	0.84	1.45	0.11	-1.49	-0.65	1.51	1.20	-0.17	0.04
43	0.14	0.08	1.26	-1.47	-0.91	0.14	1.18	-0.31	0.07	0.09
44	-1.05	1.03	0.05	-1.11	-0.69	0.46	-0.33	0.54	-0.45	0.77
45	0.58	0.70	0.44	0.65	0.13	0.02	-0.52	-1.09	-0.08	-0.27
46	-1.09	-0.17	-0.64	0.41	1.88	-1.54	1.35	0.21	-0.51	-0.59
47	1.06	1.03	0.72	-1.87	-0.59	0.62	-0.80	-0.60	-0.24	-0.02
48	0.29	0.30	-0.18	-0.74	1.51	1.43	0.13	-0.02	0.04	0.13
49	-1.30	-0.62	0.59	-1.28	0.02	0.74	-0.45	-0.96	0.24	-0.18
50	-1.54	-0.01	0.47	-0.01	-1.30	-0.61	0.92	-0.74	-0.46	1.32

$\Sigma(x)$  2.43 0.41 5.13 6.39 3.60 -3.80 2.84 -7.87 8.46 -1.32  
 $\Sigma(x^2)$  47.7571 54.6227 47.1280 52.4450 55.3248 52.9286 71.2918 50.3440 30.6684 45.3708

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.15	-0.53	0.33	1.61	-1.16	2.15	1.31	-0.30	1.54	-1.42
2	-0.13	2.84	-1.01	-0.94	0.34	0.70	-1.18	-0.49	1.69	0.02
3	0.06	0.39	1.80	0.78	2.15	-0.32	0.61	-0.31	-0.01	0.69
4	0.86	-0.68	1.97	0.24	1.04	-2.59	1.55	0.89	0.26	2.40
5	1.38	0.95	0.90	0.95	-0.66	0.61	-0.11	1.07	-1.62	-0.56
6	-0.22	-0.85	-1.15	-0.66	-0.68	-1.66	-0.38	-0.81	1.75	0.54
7	-0.34	0.83	0.27	2.38	0.38	-0.49	0.39	0.69	-0.59	1.50
8	-1.41	-0.16	-1.87	-2.14	-0.52	-0.31	-0.91	-1.55	-0.65	-0.79
9	-0.20	-0.12	0.51	0.42	-1.31	0.70	-0.84	-0.88	0.31	0.91
10	-0.56	-0.34	0.35	-0.31	0.08	0.77	-0.87	-0.35	-0.70	-1.07
11	-0.07	-0.61	-1.64	-1.27	0.56	0.62	-0.90	1.63	-0.89	0.13
12	-0.51	0.84	-1.03	1.08	-0.35	0.00	0.57	-0.46	-0.28	1.33
13	-0.08	-1.45	0.23	-0.59	1.09	-0.17	-0.58	-0.31	0.42	0.99
14	0.13	-0.41	1.11	-0.23	2.16	-0.12	1.51	1.99	0.81	-0.17
15	-0.28	-0.93	1.19	-1.82	0.01	-1.13	1.20	-1.32	-1.62	0.70
16	-2.07	0.37	-0.40	-1.61	-0.74	-0.59	1.27	3.35	-0.38	-0.08
17	2.04	-1.14	1.56	1.45	0.03	-0.78	0.30	0.03	1.56	-0.61
18	-0.45	-1.24	0.52	0.86	0.11	1.64	1.09	-1.21	0.29	-1.17
19	0.63	0.84	1.15	1.27	0.73	1.00	-0.49	0.09	0.09	0.49
20	-1.13	-0.08	-1.47	1.88	0.15	-1.38	-0.25	-0.83	-0.09	0.77
21	-0.30	0.29	1.90	0.68	0.03	0.61	0.19	1.44	0.48	0.27
22	-0.13	1.06	-0.32	0.16	-0.10	-0.19	0.56	0.12	0.82	1.42
23	-0.09	1.04	-0.30	1.31	1.07	-0.98	-0.69	0.50	1.20	-0.11
24	0.61	0.30	0.67	0.83	-0.30	1.28	-1.80	1.16	0.29	0.31
25	0.56	-0.09	0.09	-0.24	-0.42	-0.14	-1.21	-1.54	1.23	1.38
26	0.03	-0.73	0.09	-1.32	-0.80	0.74	0.79	0.06	1.69	-1.53
27	1.66	-0.86	1.73	1.99	0.90	-1.01	-1.00	-0.04	0.34	-0.79
28	-1.04	-0.29	0.72	1.87	0.51	-0.47	0.34	0.88	0.01	-0.33
29	-0.27	-1.26	-0.46	-0.17	2.33	0.02	1.47	-0.45	0.27	0.97
30	0.37	0.13	-1.16	-0.71	0.42	1.08	0.58	-0.89	-0.26	0.08
31	0.89	-1.92	0.06	1.51	-0.18	1.97	0.61	0.47	0.17	0.84
32	0.62	-1.55	-0.97	-1.59	-0.81	-1.67	0.52	0.61	0.89	1.17
33	-0.45	-0.16	0.92	-0.71	-0.70	0.85	-0.35	-1.24	-0.27	0.55
34	0.58	-1.26	0.71	-2.15	0.45	-0.18	0.68	0.24	-1.69	-1.95
35	0.32	0.33	1.73	0.24	2.27	-0.26	-0.47	-0.13	0.76	-0.87
36	0.45	-0.89	0.09	0.07	-1.09	-0.23	0.44	0.58	-1.14	-1.15
37	-1.29	0.93	0.59	0.26	-0.42	-0.88	0.17	0.30	0.64	-0.45
38	1.46	1.64	-0.94	-0.67	-0.31	1.29	-0.55	0.91	1.62	2.58
39	1.09	-1.01	-0.86	0.16	0.51	1.03	2.23	-1.49	0.71	-0.12
40	-0.20	-0.14	-0.55	-1.26	1.50	0.50	-0.50	-0.54	1.46	0.98
41	-1.11	1.75	-0.81	0.66	-0.97	0.20	-1.57	-0.23	1.93	-0.37
42	-0.20	-0.17	0.20	0.04	1.97	0.21	1.85	0.56	0.69	-0.15
43	-0.33	-0.86	-3.02	0.19	0.22	0.49	0.95	1.49	-0.58	-0.39
44	0.38	0.92	-0.42	1.59	-0.94	0.40	0.51	-0.90	-0.44	0.22
45	-1.35	-0.12	0.29	-0.29	0.07	0.24	-0.67	0.81	0.82	-1.68
46	-1.10	0.93	1.74	-0.81	-2.43	-0.29	-0.89	0.19	-2.28	-2.61
47	2.13	-0.29	-0.22	-1.23	-0.16	0.71	-0.72	-1.93	-1.93	-0.35
48	-1.17	0.80	-0.89	0.09	-0.10	-0.31	-0.63	0.10	-1.04	0.02
49	-0.47	0.70	0.53	0.09	0.03	0.33	0.01	-0.30	-1.38	1.02
50	1.66	0.56	1.04	-1.84	-1.06	-0.34	-0.01	-0.68	0.01	-1.06

$\Sigma(x)$	1.11	-1.70	5.50	2.10	4.90	3.65	4.13	0.98	6.91	2.50
$\Sigma(x^2)$	41.2151	44.9600	59.3472	66.5368	49.6724	43.4521	43.0369	51.0232	55.0065	56.0674

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.95	0.33	0.08	-1.04	1.58	0.71	0.22	-1.11	-0.53	0.04
2	1.06	-1.46	1.68	-0.80	0.05	0.18	-0.45	0.41	0.12	-0.93
3	1.96	0.20	-0.04	0.68	-0.94	0.37	0.73	1.56	0.21	1.14
4	-1.97	-2.15	0.27	0.65	-0.41	0.42	-0.94	0.61	0.58	1.66
5	-1.31	1.70	2.27	-0.36	0.87	-1.60	-0.18	-0.41	-0.23	-0.86
6	0.60	0.48	0.38	2.55	-0.34	0.04	-0.30	1.69	-0.17	0.89
7	1.73	1.05	1.81	-0.13	-2.34	-0.12	-0.40	-1.08	-0.06	0.63
8	-0.82	1.27	1.42	-0.40	0.26	0.82	-0.18	-3.12	1.11	1.38
9	0.24	-2.05	-1.09	1.16	-0.22	-1.18	0.20	0.88	0.64	-0.92
10	0.99	1.34	1.20	0.98	-0.90	0.21	-1.49	0.33	0.20	-0.63
11	-1.67	0.43	0.28	-0.26	1.48	1.01	1.22	1.59	-1.45	0.37
12	0.59	-0.30	1.15	0.48	0.12	-1.47	0.93	1.05	-0.24	-2.08
13	0.46	-1.14	-1.54	-0.62	-1.05	-0.51	-0.38	-1.17	0.57	2.15
14	0.68	-0.50	0.05	0.80	0.19	-0.17	-1.28	-0.91	-1.50	-0.15
15	-0.05	2.25	0.18	0.63	2.27	-1.03	-0.96	0.19	0.77	-0.61
16	-1.24	-2.33	-0.31	0.41	-0.72	-1.14	-0.06	0.72	1.49	0.93
17	-0.71	0.20	-0.65	1.51	0.07	0.17	1.26	0.59	0.93	0.82
18	-0.92	-0.77	-0.27	0.16	1.71	1.38	0.60	1.19	0.94	-0.02
19	1.64	1.78	-0.80	-0.01	-0.15	0.29	-0.57	-1.09	-0.17	0.47
20	1.24	-1.05	1.27	0.15	0.40	-0.56	0.03	0.51	-1.95	1.08
21	0.96	0.04	1.83	0.20	0.57	1.17	-0.76	1.00	1.40	0.06
22	0.90	0.11	-0.73	1.14	0.81	-0.61	0.71	0.95	1.01	0.43
23	-0.96	-0.82	-0.76	-0.17	0.22	-0.48	2.61	-0.20	2.71	0.43
24	-1.36	0.93	-0.65	-2.16	-0.55	-1.26	-1.18	-0.11	1.35	1.73
25	0.98	0.56	-1.54	0.92	0.47	0.25	1.75	0.13	0.38	1.25
26	-0.38	-0.09	-0.01	2.16	1.12	-0.64	-0.73	0.11	0.96	1.30
27	-0.89	-0.58	0.82	0.73	-1.91	-0.05	0.51	1.77	0.20	2.68
28	0.56	0.09	-0.17	-0.77	0.08	0.26	-1.25	0.08	0.56	0.28
29	0.10	0.94	1.22	-1.02	1.57	-0.89	1.88	1.18	0.60	-0.48
30	0.99	0.40	-1.40	-1.13	0.81	-0.39	0.55	0.06	-0.89	-0.62
31	0.90	-0.97	-0.23	-0.48	-1.64	-0.43	-1.40	0.66	0.38	1.29
32	2.48	0.74	0.36	-0.73	-0.44	-1.14	0.02	0.81	1.18	1.66
33	-1.10	1.66	-0.22	-1.17	-1.03	0.09	2.06	-1.42	-1.25	1.24
34	-0.11	-0.26	0.54	-0.15	0.27	-0.90	-0.79	0.46	0.48	-0.33
35	-0.54	-1.99	-1.98	0.52	2.13	-0.11	0.39	0.96	-1.62	-1.04
36	0.73	-0.27	-0.28	-0.39	0.22	1.58	-0.29	-0.67	1.03	-1.19
37	0.11	1.54	-1.28	-1.63	-0.21	0.22	0.02	-1.40	0.35	-0.51
38	-0.79	-0.72	-0.99	-1.56	-0.94	-0.17	-0.15	-0.76	0.58	-1.54
39	0.66	-1.02	1.66	1.11	-1.47	1.27	0.17	-0.75	1.17	-0.91
40	0.87	1.13	-1.87	0.40	-0.57	0.68	1.68	0.55	0.75	-1.66
41	1.61	-0.64	0.43	-0.25	1.10	1.12	-2.59	-0.07	0.33	0.49
42	-0.13	-1.03	0.10	0.23	0.99	1.24	-0.59	0.41	-0.31	0.72
43	-1.82	0.19	-0.67	-0.81	-0.88	1.64	0.01	0.91	1.01	0.77
44	-0.87	-0.13	-0.57	0.45	-0.48	1.99	-0.59	0.41	-1.79	0.45
45	0.55	-1.23	0.58	-2.25	0.64	0.13	-0.26	-0.93	2.02	-1.57
46	0.27	-0.14	-0.57	0.18	0.21	-0.17	1.00	-0.63	0.52	-1.29
47	0.11	2.09	0.79	-0.76	-0.89	-0.04	-0.48	1.84	-0.48	-0.01
48	0.02	-1.03	-1.19	-0.71	-0.56	0.44	0.13	-0.03	-0.37	-1.02
49	1.48	0.80	-1.96	1.53	-0.01	0.27	0.23	1.05	-0.32	-0.69
50	0.97	0.96	1.48	-1.22	-0.45	0.42	-1.23	-0.40	-0.44	0.95

$\Sigma(x)$	9.75	0.54	0.08	-1.25	1.11	3.31	-0.57	8.40	12.76	8.23
$\Sigma(x^2)$	56.1931	62.8160	57.2708	50.9661	49.5063	35.6373	50.3417	50.3004	49.1378	59.7791

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.33	0.06	1.28	-0.21	-0.71	1.21	-0.73	-0.17	0.83	0.23
2	0.35	-0.30	-1.45	-1.35	0.22	-0.09	-0.56	0.74	0.70	-1.03
3	0.68	-0.02	0.46	-0.72	-0.34	-0.02	-2.04	-0.02	0.33	0.25
4	-0.91	-0.80	0.47	-0.13	-1.11	0.04	-0.51	1.83	-2.66	-1.19
5	1.05	-0.06	-0.66	0.84	1.30	-0.84	-0.33	-0.54	-0.13	0.28
6	0.17	-1.38	0.23	2.41	-0.27	1.10	-0.85	0.58	-0.75	1.11
7	0.03	-0.92	0.92	0.16	0.73	1.17	0.07	0.79	-1.16	1.01
8	0.12	0.54	-0.23	-1.24	-0.19	-1.00	-1.31	0.24	0.17	0.21
9	1.49	-0.31	1.53	-0.63	1.59	0.33	0.23	-0.21	-1.26	-0.20
10	1.84	-1.32	-0.62	1.17	-1.49	-0.12	0.70	1.67	0.72	1.31
11	-0.81	-2.54	0.46	-0.44	-2.00	-1.19	-0.16	-0.43	1.20	2.20
12	-0.47	0.32	-1.72	1.52	1.29	0.35	0.81	-1.71	-0.74	-0.00
13	1.35	-2.45	-0.87	1.40	0.07	2.63	-1.78	1.57	0.00	1.00
14	0.40	0.80	0.49	-0.13	0.10	0.04	0.44	-0.95	-0.43	-1.14
15	-0.71	-0.58	0.72	1.24	-0.09	0.13	0.16	1.60	-1.11	-0.64
16	-0.87	-2.41	2.75	-1.30	1.34	2.44	2.16	-0.58	-1.74	-0.08
17	0.37	-0.64	-0.65	0.48	-0.17	0.56	-1.13	0.91	-0.55	-1.29
18	1.61	0.35	2.00	-0.25	-1.15	0.75	-0.45	0.31	0.46	-0.32
19	-0.82	-1.62	-1.17	-0.25	3.19	-0.59	0.70	-1.86	0.01	1.09
20	-0.19	-1.18	-1.29	0.22	2.16	-1.37	-0.92	0.34	1.01	-0.46
21	-0.20	-0.27	0.03	-0.97	0.09	1.51	-0.22	0.47	-0.86	1.31
22	-1.61	1.04	-1.62	-0.06	-0.28	-0.34	2.57	-0.50	0.32	0.37
23	0.99	-0.67	1.44	-0.15	0.38	-0.42	0.74	0.38	0.05	0.90
24	0.17	0.96	-0.04	-0.42	-0.37	-1.25	-0.54	0.58	0.04	-1.15
25	0.31	0.00	0.54	0.19	0.68	0.69	1.53	-0.53	0.79	-1.44
26	-0.33	-0.54	-1.09	0.82	0.27	0.12	0.38	-0.59	0.65	0.62
27	-0.82	-1.11	-0.22	0.16	-0.21	1.97	0.04	0.72	-1.27	1.13
28	-0.44	-0.49	-0.95	-1.43	-0.33	0.03	-0.46	1.44	2.08	-0.81
29	0.52	-0.12	-0.14	-0.95	-0.96	0.26	-1.12	0.49	0.10	1.59
30	-0.71	0.59	0.97	-0.33	0.91	-0.49	0.48	-1.49	-1.44	-1.10
31	0.65	-1.44	-0.32	-1.45	-0.93	-0.55	0.78	0.28	1.28	0.14
32	-0.51	0.43	1.34	-1.63	0.40	-0.03	-2.67	1.30	-2.19	-0.88
33	-1.21	0.18	-0.03	1.55	2.52	1.84	0.10	0.72	-2.53	-0.82
34	-1.21	0.91	0.12	1.11	0.09	-0.10	-0.81	0.15	-1.09	0.11
35	1.44	0.30	1.55	-1.01	-0.72	0.67	1.76	1.28	-1.56	-0.42
36	1.61	1.33	0.00	-0.62	-0.07	-1.21	0.41	1.55	0.57	-0.68
37	0.33	-1.16	0.88	0.18	-0.71	-0.98	-1.66	-0.76	-0.80	0.80
38	-0.05	0.91	0.56	-2.06	-0.28	1.70	-0.62	-1.14	0.69	0.29
39	1.08	-0.78	-0.10	1.23	0.57	-0.37	-0.75	1.10	-1.89	1.30
40	-0.36	-1.21	0.77	0.87	0.36	-0.63	-1.32	-0.55	2.46	-0.14
41	1.51	-0.61	0.59	0.29	-0.12	0.21	-1.34	0.07	-0.95	-0.61
42	-0.25	-0.44	-0.20	1.14	-1.68	0.76	-0.51	-2.11	-0.13	0.90
43	-0.08	-3.08	-2.58	-1.17	0.04	-0.65	0.45	1.25	1.58	0.37
44	-0.49	1.17	0.54	0.29	-1.53	1.35	-1.59	2.03	-0.42	2.01
45	0.44	1.41	0.58	1.95	0.25	0.62	-0.14	0.24	-0.64	-0.97
46	-0.11	1.36	0.45	0.88	0.25	-0.20	-0.35	0.81	-0.67	0.48
47	-0.05	1.41	-1.56	0.71	-2.29	1.31	-0.84	-1.03	-0.56	-1.04
48	-0.05	-0.20	-0.51	-0.48	0.66	-1.52	-0.91	-0.92	-0.96	0.64
49	-1.00	0.42	-0.52	1.31	-0.41	0.34	0.40	-0.77	2.08	-0.44
50	-0.28	0.61	0.63	0.85	0.80	2.73	0.99	-1.29	1.08	0.24

$\Sigma(x)$	4.30	-13.55	3.76	3.59	1.85	12.90	-10.72	7.29	-9.29	5.04
$\Sigma(x^2)$	34.8810	61.2191	53.3242	52.2217	56.1977	57.1076	56.3062	53.3319	69.0059	42.3834

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.40	0.99	-0.14	0.17	1.12	-0.94	-2.58	0.87	1.31	-1.32
2	1.56	1.06	-0.82	0.08	0.65	-1.59	0.48	-1.15	-0.58	-0.28
3	-0.75	1.48	0.81	0.37	-0.01	-0.63	-2.28	-0.70	-0.37	-0.30
4	1.87	-1.09	0.88	1.45	0.74	-0.29	-1.13	0.17	1.36	1.55
5	0.43	1.12	0.77	1.81	-1.29	-1.02	1.44	-0.08	0.40	0.59
6	0.86	-1.39	0.30	0.91	-0.33	0.07	-0.68	-0.39	-1.12	-1.13
7	-0.94	1.34	-0.08	-1.44	-0.86	-0.36	1.12	0.37	2.25	1.64
8	-0.93	1.66	-0.73	-1.08	1.34	-0.25	-0.14	1.23	-0.52	0.28
9	0.14	0.34	-0.17	0.77	0.15	0.01	0.08	0.65	0.58	-0.09
10	-0.71	0.39	-0.18	-0.87	-1.12	-0.04	-0.33	-0.75	1.05	0.18
11	1.57	-0.90	0.11	0.57	0.28	-0.54	-0.52	-1.07	1.07	1.01
12	-0.15	-0.88	-0.73	2.41	1.05	-1.03	-0.78	0.75	-0.16	3.04
13	0.21	-0.11	1.63	0.66	0.49	1.31	-1.64	-0.16	-0.89	-0.25
14	-1.70	0.28	0.85	0.72	-2.10	0.81	-0.28	-1.27	1.50	0.57
15	1.61	-0.70	1.66	-1.60	-0.40	-0.07	-0.10	0.53	-0.19	0.91
16	-0.21	-0.10	-0.11	-0.10	0.06	-0.88	1.78	-0.45	-0.36	0.25
17	-0.14	-0.55	0.46	-0.16	-0.28	0.35	-1.36	-1.00	1.34	0.64
18	-0.86	0.89	0.12	-0.44	-0.07	-0.14	-0.73	0.72	0.30	-1.11
19	-0.71	0.11	0.76	0.75	0.12	-0.27	0.01	1.28	0.00	0.07
20	-1.00	0.98	-0.85	-1.43	-0.56	0.28	-0.78	0.20	-0.59	-1.94
21	0.31	0.49	1.00	-0.01	-1.92	-0.11	0.51	0.01	-0.90	-2.67
22	-0.85	0.61	-0.90	1.38	-0.22	1.46	-0.06	-0.50	-0.29	-0.12
23	1.53	-0.82	-1.44	0.18	0.31	-0.02	0.39	-0.03	-0.48	0.42
24	0.86	0.09	-1.31	-0.58	-0.43	-0.36	-0.78	0.44	-0.89	1.31
25	1.37	1.07	0.79	0.38	-0.59	-0.37	-0.40	-0.23	0.50	1.43
26	-0.59	-1.00	0.65	-0.55	0.52	0.16	-0.71	-0.21	-1.41	-0.10
27	-2.00	-1.43	-0.15	1.64	0.97	-0.02	-0.57	2.16	-0.11	0.87
28	-1.62	-0.53	-1.14	-1.09	-0.65	0.35	-1.03	0.15	1.36	-0.12
29	2.15	1.57	1.53	-2.13	-0.66	-1.77	-1.83	-0.39	-0.87	-1.49
30	0.69	-0.64	-0.18	0.75	0.39	-0.34	-0.02	0.17	0.46	-0.87
31	-1.70	-0.67	0.89	-1.07	-1.89	0.05	0.60	-0.88	0.36	0.05
32	1.38	-0.08	-0.11	0.04	-2.61	0.10	1.59	-1.54	0.56	-0.08
33	2.00	0.24	1.29	-0.53	-0.57	0.77	1.80	0.41	-1.29	-1.09
34	1.32	-0.41	0.17	-0.86	-1.51	1.69	0.30	0.47	0.18	-0.45
35	0.39	-1.86	0.11	-0.50	-0.53	1.94	-0.26	-1.54	2.07	-1.19
36	0.34	-0.97	-1.78	0.42	1.12	-0.63	-0.79	-0.99	0.82	0.74
37	-0.65	-0.60	-0.04	0.42	0.64	0.49	-0.95	-1.59	1.49	1.52
38	-1.84	1.64	-0.54	0.89	-1.04	0.97	0.96	-0.71	-0.42	0.91
39	1.25	1.69	-0.05	-2.92	-0.86	-0.37	-0.66	0.79	-1.60	1.63
40	0.79	-0.59	-1.17	-0.36	2.51	0.63	1.17	-0.74	2.46	-0.24
41	0.14	-0.57	0.58	0.19	0.87	0.37	0.64	2.60	0.63	-0.42
42	-1.40	1.05	-1.24	0.74	0.26	-0.63	-0.87	-1.98	0.61	0.16
43	1.04	0.21	-0.01	-0.64	-0.35	-0.51	1.02	2.08	2.26	-0.15
44	-0.93	-1.87	0.53	1.07	-1.32	-0.37	0.45	-0.83	-0.61	-2.16
45	-0.21	-0.66	-0.17	-2.03	0.94	-0.04	-0.75	0.22	-0.03	0.32
46	-1.97	1.27	-0.10	-0.20	0.70	0.84	-1.87	0.79	0.84	-0.66
47	-0.04	0.21	-0.86	-0.06	0.94	0.49	0.70	-1.58	1.22	-0.79
48	1.23	0.27	-0.38	1.99	-0.20	-0.60	0.69	1.30	-0.07	-1.99
49	0.44	-0.66	1.18	0.59	0.95	-0.74	-1.06	-0.18	0.12	-1.55
50	1.15	1.95	0.52	0.23	-1.30	-0.72	-0.61	1.06	1.22	2.28

$\Sigma(x)$  3.33 3.92 2.21 0.93 -6.55 -2.51 -10.82 -1.52 14.57 -0.19  
 $\Sigma(x^2)$  67.4987 49.0748 34.0489 58.0313 51.4355 28.3777 52.9960 50.6296 53.8785 67.3651

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.17	0.30	-1.46	0.83	-0.11	-0.65	1.57	0.78	1.46	0.13
2	-0.95	-1.07	-0.26	0.44	2.92	-0.46	1.02	-0.90	0.26	-0.46
3	-0.35	0.58	0.44	-1.25	1.56	-1.71	-1.52	0.39	-1.42	-0.55
4	-0.44	0.88	0.51	0.53	-0.10	-0.11	-0.46	-0.17	-1.06	0.58
5	-0.98	-0.88	1.78	1.50	1.22	-1.17	0.66	-0.35	-0.55	-0.04
6	-0.19	1.66	-0.75	1.45	-0.16	-0.56	-2.30	-0.81	0.33	2.64
7	0.81	-0.40	-0.21	-2.24	-1.43	-0.81	-0.45	0.08	0.83	1.82
8	-0.86	0.64	-0.90	-0.88	1.18	0.99	-1.18	1.41	-1.49	-0.11
9	1.71	0.89	0.90	-0.62	1.17	0.68	0.60	-0.64	1.51	0.62
10	0.22	2.41	-0.33	-0.28	1.39	1.21	-0.26	-0.06	-0.99	-1.77
11	1.37	0.78	-1.86	-0.99	-0.53	-1.68	-1.11	0.90	-0.22	1.49
12	1.01	0.92	1.42	1.59	-0.92	-0.52	1.55	-0.56	0.44	-1.37
13	-1.70	-0.17	-0.79	1.76	0.59	-0.94	1.80	0.76	1.45	0.00
14	-0.43	-0.50	0.01	-0.96	-1.61	-1.59	1.70	-1.41	0.85	0.56
15	-1.06	-0.54	-0.02	0.61	0.41	0.36	-0.23	-0.75	1.25	-0.23
16	1.58	-0.23	-0.20	1.02	-0.07	0.34	-0.28	-0.21	0.06	-0.36
17	0.63	-0.78	-0.19	-0.63	1.31	-2.63	0.01	0.10	-1.19	0.54
18	1.74	-0.03	3.07	0.16	1.52	-1.28	1.19	1.40	-0.59	-0.39
19	-0.71	2.92	-0.13	0.22	-0.09	1.84	0.57	-0.50	-0.61	2.07
20	-1.21	1.44	1.77	0.19	0.29	-0.37	1.79	-0.87	2.22	0.54
21	1.52	0.57	0.60	-0.95	-0.96	0.68	-2.06	-1.28	1.59	0.15
22	-0.16	0.62	-1.32	-0.30	1.04	-0.89	-0.30	0.17	0.08	-0.23
23	-0.78	-0.70	0.97	1.72	-0.31	0.44	-0.80	0.18	1.26	-1.91
24	-0.30	1.43	-0.42	-1.28	-0.41	1.07	-0.17	-0.90	1.78	0.62
25	-0.04	-1.41	1.93	-0.93	-0.08	0.87	-0.05	0.76	-1.33	0.10
26	0.10	-0.04	-0.15	0.37	-0.19	-0.75	0.85	-0.14	0.10	-1.36
27	0.01	0.39	-0.06	-0.33	-0.52	-0.05	-0.61	0.05	-0.16	1.17
28	-0.10	-1.38	-1.49	-0.40	0.06	1.28	0.79	1.52	-0.09	-0.60
29	1.30	0.64	-1.33	-0.92	1.11	-1.16	0.99	-1.37	-0.29	-0.65
30	-2.49	0.79	-1.05	-0.61	-0.79	0.42	-0.99	0.79	2.54	1.49
31	1.00	-0.44	-0.54	-1.02	-1.19	0.30	0.01	0.09	-1.86	-0.56
32	-1.31	0.03	-0.35	-2.17	0.71	-0.85	-0.19	0.62	1.13	0.51
33	1.07	-0.99	1.32	-0.97	-0.01	-0.70	-0.55	-1.85	0.41	-0.46
34	0.71	0.94	-0.64	1.20	-0.59	-0.10	-0.53	0.98	-0.20	1.42
35	0.70	0.22	1.14	0.50	-0.23	0.31	-0.29	-1.52	-0.30	0.20
36	1.77	0.29	-0.02	0.42	-0.51	-1.87	0.34	-0.65	0.99	1.25
37	-1.23	-0.08	-0.16	-0.48	0.35	-0.45	0.11	-0.18	0.34	-0.07
38	-0.06	-0.36	-1.57	-0.45	0.94	-0.81	-0.21	-1.25	0.04	-1.97
39	-0.64	0.39	0.42	-1.14	-0.07	-0.55	0.90	-2.31	-2.59	0.40
40	-0.33	-0.23	-0.18	-1.13	-0.08	2.53	-0.73	0.12	-0.76	-0.85
41	1.03	-1.46	0.89	-0.71	-1.21	1.11	0.26	-0.39	0.19	1.24
42	-0.17	-0.11	1.08	1.40	0.87	0.09	1.60	-0.03	-1.20	0.98
43	-0.92	-1.22	-0.33	-0.38	1.66	-1.33	-0.37	-1.16	-0.80	0.98
44	0.19	-1.05	-0.40	0.98	2.23	-0.52	1.08	0.92	0.78	0.20
45	1.73	0.35	0.30	1.49	-0.65	0.72	-0.39	-1.19	0.05	-0.16
46	0.09	1.37	1.08	-1.45	-2.06	-1.69	-0.87	1.75	0.76	1.09
47	0.31	-0.25	0.04	0.99	0.22	-2.09	-0.11	-1.77	0.66	0.41
48	1.43	0.32	0.26	-2.82	-0.41	1.00	-0.81	-2.29	-0.56	1.65
49	0.59	0.24	-0.35	0.36	-0.51	0.83	0.92	-1.18	-0.15	0.68
50	-1.11	0.53	0.67	0.45	0.42	0.99	0.45	-1.76	-0.69	-0.71

$\Sigma(x)$  2.93 8.22 3.14 -6.11 7.37 -10.23 2.94 -14.68 4.26 10.72  
 $\Sigma(x^2)$  52.6005 44.4262 49.6602 59.5807 50.9011 60.8769 46.0758 54.1236 57.2264 52.3744

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.43	1.32	-1.24	-0.71	-0.26	1.05	1.56	-1.40	-0.72	0.52
2	-0.63	0.94	0.87	1.33	1.08	-1.04	0.83	-0.11	1.75	1.31
3	-0.86	0.84	-0.45	0.08	0.42	-1.09	0.80	-1.27	0.53	-2.14
4	1.01	-2.22	0.33	1.57	-1.57	-1.44	0.08	-0.16	-1.87	1.14
5	-0.15	0.43	2.07	1.31	0.37	1.50	0.65	2.06	-0.77	-0.45
6	-0.80	1.11	1.16	-0.65	-1.13	-0.18	-0.13	-0.25	-1.93	1.25
7	0.10	-0.72	1.06	1.13	1.14	1.31	-0.18	0.22	-0.68	-0.28
8	-1.85	-0.27	-1.18	1.47	-0.48	-0.80	-0.56	0.08	-0.34	-0.95
9	-1.14	-0.51	0.28	2.08	-0.58	0.43	0.44	-0.27	-0.31	0.07
10	0.58	-1.41	-1.08	2.15	-0.18	0.07	-1.16	1.04	-1.40	-0.03
11	-0.09	0.74	-0.75	-0.17	-0.67	-0.25	0.12	1.08	-0.48	-0.93
12	-1.10	0.56	0.71	0.49	-0.77	0.61	-0.86	-1.74	0.71	1.43
13	0.10	-1.39	1.40	-1.27	-0.28	1.22	1.39	-0.40	1.45	-0.57
14	-0.31	2.29	-0.23	-1.40	-0.40	-0.94	-0.41	0.88	0.17	-1.30
15	-1.40	0.01	-1.45	1.15	0.51	0.33	-0.58	-1.16	-0.01	0.67
16	0.38	0.64	0.78	0.41	1.33	1.21	1.17	0.86	-1.45	1.64
17	1.66	0.40	0.71	-0.48	0.46	-0.34	0.40	0.61	0.36	-1.72
18	0.72	-0.02	0.91	-0.50	0.52	-0.63	1.21	0.28	1.43	1.37
19	-1.77	-0.38	-3.59	-0.12	0.34	0.61	-1.07	0.77	0.60	-1.37
20	-0.99	-0.67	-0.99	0.32	0.70	0.20	-1.67	2.08	-0.93	0.68
21	0.58	0.42	0.20	-0.63	-0.76	-0.88	-1.30	-1.16	0.41	2.58
22	-1.38	1.23	-0.71	-0.16	-2.10	0.07	2.23	-1.66	-1.51	1.20
23	0.93	-0.31	0.40	0.51	-0.66	1.85	-0.04	-0.75	0.12	-0.03
24	0.15	-0.22	1.39	-0.46	-0.08	0.12	-0.95	0.48	0.09	1.52
25	-0.70	0.66	0.76	0.26	-0.67	0.22	-0.00	-0.58	1.55	0.38
26	0.97	-0.76	0.60	-0.03	0.32	-0.50	-1.09	-0.03	-0.30	0.25
27	0.26	-1.50	-1.92	-0.28	-0.06	1.24	1.26	-1.72	-1.43	-0.91
28	0.72	0.31	0.30	-1.06	0.57	-0.64	0.47	0.50	1.67	1.39
29	-0.98	-1.13	0.50	-1.25	1.01	-1.25	0.34	-1.21	-0.06	-0.23
30	-0.17	-0.63	0.30	-0.03	1.32	-0.89	-0.91	1.32	-0.14	-0.94
31	-2.12	1.70	0.22	-0.89	-0.22	-0.11	-0.48	-0.20	1.12	0.14
32	-1.70	0.29	0.62	1.51	-0.79	1.45	-1.04	0.52	-0.38	1.15
33	0.57	0.37	0.60	-1.23	0.05	-0.32	-0.72	0.11	-0.74	-0.93
34	0.72	0.28	-0.59	0.97	1.84	0.20	-1.03	-0.84	0.86	-0.39
35	-1.86	0.54	1.64	-1.98	1.02	-0.80	0.60	-1.22	0.27	-1.28
36	0.50	0.80	-1.18	-0.97	-0.67	-0.48	-1.04	-0.95	0.29	0.63
37	-0.08	-0.25	0.21	0.09	2.40	-1.32	-0.17	-0.64	-1.44	1.37
38	1.71	-1.62	1.52	1.09	-0.32	1.66	-1.03	-1.27	0.32	-0.49
39	1.43	-0.12	0.90	-0.14	-0.17	-0.10	0.27	1.21	0.60	1.42
40	-0.74	1.01	-0.40	0.07	1.38	-2.28	1.27	0.28	0.58	0.88
41	1.56	0.86	0.15	-0.41	0.37	-0.41	-0.73	-1.08	0.15	-0.50
42	0.90	0.23	0.16	0.33	0.07	-0.16	-0.22	-0.03	0.17	-0.05
43	-1.00	0.09	1.52	-1.16	-0.02	-0.53	-0.09	1.07	-1.03	-0.65
44	1.06	0.21	0.45	-0.26	0.11	-0.32	0.62	-0.28	2.17	-0.52
45	0.29	-0.15	-1.02	-1.01	-1.65	-0.24	0.15	-0.26	0.69	-0.47
46	1.25	0.57	-0.87	-0.34	-0.46	1.33	1.37	0.80	-0.08	0.85
47	-2.18	1.63	-0.66	1.30	0.40	0.84	0.86	0.04	0.99	-0.43
48	0.09	-0.31	0.91	1.20	2.16	-1.99	-0.97	0.93	0.80	-0.13
49	1.16	1.12	0.68	-0.30	0.35	0.36	-0.99	0.50	0.37	-0.50
50	0.30	0.26	2.31	-0.41	-0.38	0.10	0.03	0.15	0.24	-0.96

$\Sigma(x)$	-3.87	7.27	8.31	2.52	4.91	-1.95	-1.30	-2.77	2.46	4.69
$\Sigma(x^2)$	55.6927	41.6937	60.6461	46.7494	42.1831	44.4373	40.3614	44.5769	46.3324	52.7309

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.59	-0.09	0.02	-1.34	-0.62	2.28	-1.21	-0.41	-1.55	1.04
2	0.34	0.05	0.37	1.45	-1.74	-0.22	1.14	1.03	-1.57	0.38
3	0.74	0.35	-1.38	-0.83	-0.31	-0.69	-0.03	-0.35	1.06	0.27
4	-1.09	1.33	-0.15	0.17	0.07	-1.10	1.07	-0.40	0.48	-0.06
5	1.19	-0.90	0.77	1.60	1.79	-0.36	0.75	-0.83	-0.51	-0.28
6	1.27	0.11	-0.17	-0.34	0.38	-1.28	-0.19	-0.65	-0.40	0.31
7	2.01	-0.56	-1.03	0.82	-0.20	0.40	1.06	0.25	-0.37	1.01
8	0.45	0.68	-0.22	-0.72	0.46	-0.22	1.51	1.14	-0.12	1.51
9	0.52	1.04	-0.63	0.08	-0.01	-0.58	-0.13	0.45	1.04	-0.64
10	-1.29	-0.12	0.79	0.23	0.04	-1.39	-1.62	-1.01	-1.54	-0.76
11	0.66	1.58	-1.03	-0.38	0.45	-0.93	-0.59	-1.43	-0.59	-0.26
12	0.35	-1.77	-0.31	-1.05	0.27	0.13	-0.94	0.31	-0.39	1.59
13	0.43	-0.54	0.09	0.46	0.95	-0.52	0.03	0.22	1.72	-1.43
14	1.22	0.02	-1.95	1.57	-1.12	-1.07	-1.41	0.83	-1.05	1.82
15	1.11	-0.70	2.20	-0.05	-0.74	0.89	0.00	-0.84	-2.03	-0.39
16	-0.22	0.31	1.16	-0.26	0.14	-1.98	-0.89	-0.39	-0.97	0.72
17	0.51	-1.45	-0.40	0.95	1.00	-0.04	-0.48	-0.24	-0.66	-0.34
18	-1.06	-1.12	0.08	-0.83	-0.42	-2.21	0.19	0.23	-0.22	0.19
19	0.03	0.66	0.84	0.20	-0.03	-0.09	-2.32	-1.23	0.68	-0.31
20	0.76	0.67	-0.39	0.17	0.18	0.82	-1.53	-0.93	-0.58	-1.84
21	0.26	-1.44	0.30	0.63	-1.11	-0.03	0.24	-0.55	0.10	1.02
22	-1.77	1.15	-2.13	-0.27	-2.90	-0.58	-0.80	-2.25	-0.50	0.22
23	0.75	1.22	0.40	0.16	0.93	-1.49	0.15	-0.08	-2.10	0.65
24	-0.51	0.50	-1.18	-1.54	-0.34	-0.68	0.62	0.04	1.25	2.30
25	-0.07	1.57	0.76	-0.92	-0.36	-2.68	0.51	1.99	0.42	1.13
26	-1.83	-0.61	-0.21	0.22	0.21	1.56	-0.82	0.31	-1.95	-0.41
27	0.71	0.15	-1.60	-0.09	1.50	-2.12	1.48	-0.44	-0.82	-0.51
28	-0.67	1.82	-0.93	0.26	0.42	-0.13	0.24	0.40	0.23	-2.15
29	-1.85	-1.24	-0.31	0.91	1.72	-0.62	-0.70	-0.70	-0.65	0.15
30	-1.18	1.93	0.39	-0.03	-1.77	0.20	-2.11	-1.72	0.28	-1.69
31	-1.99	0.64	2.36	-1.11	0.37	1.36	-1.40	0.40	1.28	-1.47
32	0.37	0.62	1.74	0.48	-0.45	-0.09	0.46	0.07	1.63	0.18
33	0.83	0.21	0.06	-0.81	-0.83	1.49	-1.27	0.19	-0.09	0.06
34	0.42	-1.19	0.91	-1.37	0.32	0.19	0.08	0.63	-0.33	-0.02
35	0.46	-1.02	-0.73	-0.85	0.32	-0.08	-1.51	0.60	0.01	0.65
36	-0.25	-0.24	0.16	-0.11	0.14	0.83	0.56	-0.92	-0.95	1.13
37	2.21	-1.35	-0.92	0.48	0.08	-0.45	-0.18	0.67	0.75	-0.00
38	1.14	-0.93	0.02	-0.62	-0.20	0.12	-1.27	-0.26	-0.66	-0.55
39	-0.21	-0.55	-0.58	0.21	0.31	0.55	1.02	-0.94	-1.05	0.32
40	-0.34	1.21	-0.43	-0.67	0.73	2.00	-0.06	-0.35	-0.77	2.16
41	0.37	-0.00	1.35	0.28	-0.80	-1.52	-0.22	-0.74	-0.63	-0.20
42	-0.97	0.53	0.95	-0.66	-0.15	-1.89	0.59	2.00	-0.47	0.35
43	-1.22	0.27	0.49	-0.52	0.09	-0.20	-0.15	0.58	-0.99	-1.23
44	0.14	1.10	0.88	0.43	-0.45	-1.23	1.11	0.35	0.29	0.59
45	1.25	0.92	0.05	-0.31	-0.04	0.79	0.89	0.86	0.42	0.39
46	0.16	0.23	-1.31	0.47	-1.18	0.58	0.45	-0.22	-1.45	-1.47
47	1.58	-3.51	0.73	0.42	-0.43	1.41	1.02	-0.25	-0.07	1.80
48	0.11	-0.94	0.39	-1.51	-0.42	0.45	-1.14	0.62	0.72	1.11
49	-1.09	0.87	1.10	0.08	0.92	-0.72	0.33	-1.13	0.50	1.72
50	1.56	-0.10	0.63	-0.18	0.87	0.50	-1.21	0.96	-1.16	-1.06

$\Sigma(x)$  5.71 1.37 2.00 -4.64 -1.96 -10.64 -8.68 -4.13 -14.33 7.70  
 $\Sigma(x^2)$  51.9083 56.1537 46.5732 28.4814 36.7978 62.0086 47.4154 36.4299 46.6775 55.8866



## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.20	-0.62	-0.20	-0.76	-0.85	0.08	-0.25	-0.45	0.39	-0.01
2	-1.09	-0.60	1.53	0.91	0.93	0.08	-0.76	-0.04	0.49	-0.70
3	0.51	-0.10	-1.34	1.42	0.13	0.46	-0.36	-0.17	1.32	0.60
4	-0.63	-1.15	0.49	-0.86	0.86	-1.84	0.35	-0.25	-0.74	-0.71
5	0.01	0.46	1.12	0.14	-0.18	1.97	-0.75	-1.37	0.33	0.17
6	0.10	-0.71	-0.33	0.49	0.20	0.15	-0.10	1.08	-0.21	0.59
7	-0.93	-0.98	-0.49	-0.40	-0.01	0.59	-1.16	-0.92	-0.47	0.23
8	0.42	-2.88	0.31	0.67	-0.35	-0.79	-0.05	0.09	0.12	-0.70
9	-0.81	1.25	-0.94	-1.78	-0.29	-0.20	0.03	-0.65	-1.70	0.97
10	1.33	1.34	0.72	-1.06	0.86	2.53	0.36	0.35	0.52	-1.51
11	0.72	2.14	-0.65	-0.27	-0.17	2.46	0.66	0.56	-0.03	-0.03
12	-0.11	1.41	0.52	0.25	-0.74	-0.30	-0.17	1.52	-0.13	1.23
13	0.77	0.83	-0.60	2.40	-0.73	0.70	-0.17	0.07	-0.09	-0.06
14	-0.51	-1.42	-1.34	-1.86	2.11	2.47	0.86	1.95	-0.00	0.04
15	0.65	-0.65	1.05	1.41	1.00	-1.66	-0.12	2.44	-0.65	-0.09
16	-1.30	-0.53	-0.59	0.80	-0.38	-0.41	1.00	-0.42	1.62	-0.58
17	0.62	-1.19	-0.17	1.28	0.09	1.09	-0.86	0.28	1.00	-1.89
18	0.33	-1.58	0.22	-0.69	-0.04	1.24	0.65	-0.07	-1.09	1.42
19	1.24	-0.37	-1.28	-0.26	-0.58	1.51	-0.69	0.61	-0.05	-0.56
20	-0.29	-0.66	1.00	0.41	-1.47	-0.03	0.11	0.76	0.06	0.26
21	-1.70	1.29	0.85	1.54	0.81	-1.52	-2.53	-0.03	0.12	-1.39
22	-1.02	0.85	-0.48	-1.92	-0.44	0.50	-0.58	-1.53	-0.47	-0.53
23	0.23	1.07	-1.24	-0.44	-2.09	1.26	-0.92	-1.31	1.38	1.52
24	0.75	-1.10	1.04	-0.25	1.10	0.52	0.70	-0.89	0.26	0.72
25	0.34	0.20	1.23	-0.25	-0.07	-0.71	-1.02	-2.40	-1.42	1.06
26	0.66	-0.73	0.36	1.08	0.34	-3.31	1.12	-0.02	-0.65	1.12
27	-0.33	-1.03	-1.57	0.47	0.17	-2.57	-1.83	-0.62	-0.86	-1.24
28	0.57	-1.81	-1.15	0.60	1.68	2.08	-0.71	-0.87	1.43	1.36
29	0.55	0.54	-0.23	-0.06	1.10	-0.01	-0.28	-0.98	0.13	0.09
30	-0.81	-1.03	-0.13	1.36	-0.62	-0.78	0.39	0.77	0.94	0.19
31	0.33	0.14	0.73	-0.58	0.79	-0.68	-1.23	0.18	-1.84	-0.45
32	0.10	1.47	0.78	1.11	-1.92	0.94	0.14	0.75	0.87	1.13
33	0.14	-0.85	-0.25	-0.50	1.66	-0.77	1.81	0.73	-0.52	0.15
34	0.32	2.17	0.84	0.73	1.42	0.31	0.83	1.08	-1.26	-0.48
35	-0.62	-1.20	-1.18	-1.25	-0.53	-0.59	0.49	-0.22	-0.99	1.32
36	0.12	0.79	0.11	1.16	1.59	-1.73	0.97	3.63	-1.11	-1.22
37	1.08	-1.01	0.05	-0.42	1.21	1.10	0.86	-1.41	0.93	-0.01
38	1.55	0.13	0.97	0.83	1.31	-0.42	0.33	-0.27	2.21	1.67
39	-1.04	-0.42	0.83	-0.10	-0.21	-1.16	-0.24	-1.63	-0.66	1.37
40	-0.05	1.46	-0.79	0.14	0.61	0.72	0.59	-0.57	2.16	-0.44
41	0.80	-0.68	1.13	0.94	-0.50	1.07	-0.98	0.29	-0.47	-0.95
42	-0.26	-0.70	-0.80	-0.45	-0.34	0.70	1.35	-1.09	-2.27	-2.19
43	-1.67	2.03	0.94	-0.07	-0.12	-0.46	0.45	-0.77	0.85	-1.36
44	1.06	-0.25	0.59	-0.17	1.49	-0.12	-0.82	2.10	0.55	0.99
45	0.60	0.77	0.82	0.97	0.59	-0.38	-0.48	-1.05	2.17	-0.24
46	-0.56	1.87	-2.00	1.74	2.01	0.37	1.41	-1.72	1.11	-0.85
47	-0.26	-1.66	-0.12	0.04	-1.04	0.89	-0.48	-1.12	0.90	0.84
48	-0.22	-1.40	0.97	0.51	-1.06	0.37	1.32	-1.70	0.31	-1.69
49	1.46	-0.92	-1.16	0.96	-0.40	0.49	-0.72	-0.50	-0.59	-1.14
50	-1.55	-0.99	0.64	-1.53	-1.58	-0.40	0.48	-0.71	0.81	-0.70

$\Sigma(x)$  0.40 -7.01 0.81 8.43 7.09 5.81 -1.00 -6.51 4.71 -2.68  
 $\Sigma(x^2)$  34.0984 69.6595 39.7065 48.3997 50.9073 75.1055 37.8236 67.4345 53.1421 48.6618

First Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	-0.02	-0.35	-0.78	-1.16	0.18	0.46	-1.26	-0.74	-0.67	-0.07
2	0.82	-0.07	0.55	-0.30	-1.86	-0.29	2.30	0.16	-1.31	1.32
3	0.21	0.94	2.18	-0.18	1.43	1.66	0.12	1.10	0.02	-1.04
4	-0.08	-0.40	1.57	-1.51	-1.20	-1.56	1.04	-0.24	-1.23	-0.13
5	0.61	1.13	-0.81	-0.64	-0.83	-1.22	0.38	2.35	0.48	-0.56
6	-0.03	0.49	-0.61	-0.98	-1.60	-0.72	0.21	-0.37	0.12	-0.33
7	-1.32	0.20	0.43	-0.95	-1.01	1.29	-0.68	0.17	-0.61	0.70
8	-2.26	1.16	0.16	0.90	-2.17	-2.18	0.95	0.56	-1.58	0.72
9	1.40	-0.12	-0.78	1.32	-1.60	-1.25	-0.71	0.34	-0.95	0.32
10	-1.36	0.71	-1.51	-0.23	0.60	-0.63	-0.72	0.55	1.30	-0.99
11	-0.89	-0.13	1.06	-0.63	-1.12	-1.09	0.24	-0.74	-0.68	0.33
12	-0.23	1.25	2.18	-0.20	-0.19	-0.23	-0.13	0.18	-0.65	-0.89
13	0.74	1.36	1.26	-0.67	0.87	0.21	0.43	1.55	0.54	1.24
14	-0.66	1.59	0.03	-0.62	-0.25	-0.14	1.20	-0.11	-2.19	0.77
15	0.16	1.59	-1.03	0.80	0.25	1.10	1.76	1.03	-0.70	0.18
16	0.66	-2.50	-1.51	0.54	-1.00	0.90	1.66	-0.02	-0.74	-0.14
17	-0.82	0.96	0.10	0.49	-0.37	-0.42	-0.05	1.43	0.20	-0.29
18	-1.84	0.03	-0.65	0.53	0.44	0.05	0.36	-1.25	0.86	1.40
19	1.17	0.18	0.01	-1.52	0.04	-0.35	-0.22	-0.24	0.70	0.55
20	1.33	-0.36	-0.97	-1.96	1.68	-0.13	-1.89	-0.95	-1.06	0.13
21	-0.10	-0.65	-0.96	-0.24	-0.15	-0.06	0.02	-0.36	-2.01	1.70
22	0.45	-1.06	-0.73	-0.14	-0.36	0.57	-0.72	0.38	0.50	0.03
23	-0.03	-0.22	0.45	-0.82	-0.18	-2.13	-2.00	-0.74	2.03	1.08
24	0.24	-1.30	-1.00	-0.23	1.41	-0.30	0.77	0.43	-0.93	-0.02
25	0.45	-1.55	2.38	-0.46	1.49	-0.60	0.43	-1.10	-1.01	0.02
26	-0.39	1.48	-0.49	-0.36	1.41	1.11	1.06	-1.59	-1.08	0.04
27	-0.07	0.35	-1.42	-0.00	-1.57	-0.48	-2.14	0.29	0.09	1.37
28	0.52	-0.30	-1.87	-1.24	0.80	1.26	-0.25	-1.43	1.26	-1.06
29	0.63	0.86	-0.59	1.64	-1.26	0.70	-1.12	0.13	-0.66	0.03
30	0.99	0.99	-0.48	1.57	-1.12	-0.92	-0.95	-0.98	-1.45	0.18
31	-0.47	0.10	0.84	-1.26	0.67	0.97	-0.01	-0.39	-0.65	-0.65
32	0.63	0.19	0.76	-0.13	0.12	-0.29	0.30	-0.72	-1.53	-0.21
33	-0.68	-0.08	0.55	1.31	2.23	1.64	-1.18	1.74	-2.20	-0.04
34	0.36	-0.48	0.78	0.69	-1.62	0.07	0.59	-1.00	-0.07	0.62
35	0.36	3.47	-0.94	0.34	0.37	0.06	-0.15	0.08	0.75	-0.56
36	-1.18	1.03	-1.57	-0.20	0.66	0.73	0.72	-0.03	-0.59	0.37
37	1.04	-0.94	-1.30	1.38	0.75	-0.64	-1.58	0.08	0.38	0.88
38	1.54	0.34	0.89	1.46	0.54	0.30	-0.81	-1.02	-2.08	-0.36
39	-0.67	-1.14	-0.86	-1.67	1.75	1.32	-0.09	-3.11	-0.80	-0.85
40	-0.89	0.35	0.71	0.56	-0.40	-1.57	0.09	0.09	0.89	0.90
41	0.09	0.41	-0.76	0.20	0.13	0.26	-0.20	0.74	-0.10	-0.03
42	0.78	0.05	-0.16	-0.23	0.01	-0.73	1.42	0.64	-0.69	-0.36
43	-0.76	0.37	-0.34	1.77	1.35	-0.45	0.44	-1.25	-0.49	-0.43
44	0.21	0.01	0.31	1.17	-1.19	-0.64	0.13	-1.67	-1.37	1.15
45	-0.79	0.40	-0.23	-1.02	-1.37	-0.96	-1.17	2.27	0.53	-0.31
46	-0.68	-0.74	0.21	-0.67	0.17	-1.27	2.41	2.32	-0.10	0.59
47	-0.42	-0.32	-0.82	-0.95	0.85	0.02	-0.46	0.02	1.56	0.04
48	-0.18	0.31	0.96	0.72	-0.56	0.42	1.57	-0.20	0.45	-0.37
49	1.43	-1.74	0.05	-1.34	1.24	0.46	-1.10	0.76	0.59	1.10
50	0.05	-1.95	0.08	-1.78	-1.72	0.51	-0.52	-1.19	-0.27	-1.28

$\Sigma(x)$  0.05 5.90 -4.67 -6.90 -3.26 -5.18 0.49 -2.05 -17.20 6.79  
 $\Sigma(x^2)$  35.5259 54.0712 50.8709 48.8962 60.9326 42.5710 54.2149 58.0455 54.7566 26.7083

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.40	-0.43	0.22	-1.64	1.80	0.70	-1.14	0.32	0.63	0.32
2	-0.36	-1.54	-1.41	0.63	1.43	-2.62	-0.12	-0.27	-0.13	0.79
3	1.30	-0.79	2.55	1.06	-0.49	0.20	1.29	-0.52	-0.23	0.03
4	-1.38	-0.28	-0.53	0.13	-1.45	-1.18	0.97	0.90	-0.00	1.12
5	-1.49	0.78	0.67	-1.08	1.14	0.84	-0.29	0.40	-0.43	1.16
6	-0.56	-0.42	1.21	-1.44	-0.55	0.55	1.39	0.53	0.54	-0.90
7	-0.47	0.83	0.38	-1.89	-0.50	-1.61	0.04	-2.29	0.89	-0.26
8	1.38	0.32	-0.48	-0.80	-1.33	0.83	-0.67	-1.99	-1.12	1.79
9	0.00	1.78	0.18	0.61	-1.18	-0.49	-1.08	1.48	-1.05	0.81
10	0.63	-0.58	0.80	-0.72	-2.02	1.04	0.06	0.90	0.01	-0.94
11	0.57	1.79	0.73	-0.31	-1.75	0.09	1.00	1.52	1.00	-0.84
12	2.01	2.35	-0.41	-0.35	-1.30	2.25	0.28	-1.64	-0.22	-1.36
13	0.49	-0.05	1.32	-0.39	0.80	-1.13	-1.84	-0.48	1.69	-2.36
14	1.29	0.67	-1.33	-0.07	0.58	-1.10	0.28	-0.23	0.39	-0.56
15	-1.13	0.24	0.65	-0.27	-0.14	-1.11	-0.16	0.01	-0.44	-0.60
16	0.55	0.17	-0.65	0.25	-0.42	-0.81	0.88	-0.92	0.28	-1.19
17	0.90	-0.19	-1.70	0.19	-0.61	-0.50	-1.52	-0.35	1.32	0.88
18	-0.75	1.36	-0.85	-0.92	-1.91	-0.13	-1.98	0.06	-0.62	-0.75
19	0.80	-0.50	0.41	1.23	-0.07	-1.10	0.66	1.48	-2.42	0.94
20	1.21	-2.28	-0.29	-1.26	-0.12	0.57	0.84	-1.02	1.67	0.46
21	0.23	0.69	-1.32	-1.58	-0.31	0.17	-0.63	1.05	0.90	0.22
22	-0.33	-1.10	-0.97	-0.03	1.61	-1.70	-1.74	0.46	-0.92	0.07
23	0.77	0.22	0.67	0.65	-1.46	0.77	-1.02	-0.23	0.57	-1.07
24	0.03	0.32	0.73	-0.27	1.54	-0.84	0.75	0.34	-0.38	0.67
25	0.40	-0.42	-0.43	-1.86	1.11	-0.67	1.29	-0.03	-0.23	-0.99
26	1.33	-0.16	0.62	0.79	-0.78	0.52	-0.44	0.83	-1.12	-0.71
27	-1.15	-1.83	-0.56	-1.02	0.02	1.31	-0.82	-0.18	0.59	0.04
28	-1.30	-1.15	1.98	0.96	-1.93	1.14	-0.73	-1.73	1.86	-0.44
29	0.50	-1.44	0.32	-1.24	-0.11	-0.34	1.31	-0.16	-1.03	-0.21
30	1.49	-1.39	-0.30	0.25	0.60	-0.76	-0.74	0.98	-1.47	-0.62
31	-0.43	0.46	0.06	0.08	-3.13	1.45	0.28	-0.44	0.59	0.89
32	-0.03	-2.12	0.07	1.44	-1.27	-0.27	-0.78	0.04	-2.46	-1.96
33	-1.15	0.13	-0.28	-0.10	0.21	-0.26	0.03	0.50	-0.99	-0.11
34	0.03	-0.19	0.08	0.57	0.85	0.74	0.78	1.91	0.43	0.29
35	-1.18	-0.40	0.34	0.59	1.27	0.59	-0.07	0.41	0.43	-0.64
36	-0.30	-2.05	-0.70	-0.79	0.44	-1.22	-0.64	0.04	0.85	0.62
37	1.22	-1.23	-0.79	0.58	0.73	0.86	0.64	0.65	1.10	0.96
38	-1.37	-0.10	-0.74	0.65	-0.90	0.03	-1.56	0.07	0.33	-1.75
39	-0.97	0.17	1.95	0.53	-0.16	1.65	-2.71	0.47	-0.24	-0.12
40	-0.87	0.06	1.34	0.09	0.14	-0.94	-0.44	-0.04	2.90	1.44
41	0.44	0.33	-1.09	0.28	-0.82	-0.39	0.48	-0.67	1.21	0.05
42	-2.34	-1.15	-2.27	-1.19	-0.50	-1.00	-0.97	-0.45	0.95	0.28
43	2.54	-1.07	0.14	-0.00	-1.00	0.60	-0.08	-0.69	-0.46	-1.64
44	0.08	1.01	-0.15	1.49	0.09	-1.28	0.25	0.81	-0.12	0.41
45	-0.69	-0.99	-0.16	-0.65	-1.20	0.25	-1.07	-1.65	-1.85	0.04
46	-0.56	-1.96	-1.41	0.03	-1.20	-0.11	-0.91	-1.15	0.61	-0.58
47	0.66	-0.72	1.78	-0.21	2.50	0.04	0.81	2.18	0.91	0.13
48	0.74	-0.12	-0.74	0.11	0.18	0.16	-0.28	0.23	-1.46	0.52
49	-0.81	1.05	2.61	-0.04	-0.17	-0.24	-0.26	-0.72	0.91	0.99
50	-0.55	-0.35	-0.82	0.01	0.45	0.56	-0.30	1.98	-0.43	-0.22

$\Sigma(x)$  0.02 -12.27 1.43 -6.92 -11.29 -3.89 -10.68 2.70 3.74 -4.90  
 $\Sigma(x^2)$  53.1456 56.5073 56.4289 36.3330 66.5103 46.8879 46.8210 49.5572 58.2740 41.5388

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.11	-0.27	0.04	0.72	-0.47	2.16	0.68	0.54	0.21	0.48
2	-1.53	1.27	1.43	-0.11	-0.62	1.22	0.90	-0.31	1.24	-0.39
3	-0.49	1.15	-1.93	-0.91	-2.55	1.38	-1.47	1.15	0.02	0.25
4	-0.70	0.22	-0.91	-0.50	-0.32	-0.53	-0.61	0.05	0.21	1.06
5	-0.53	1.90	0.44	-0.68	-1.92	-1.04	-0.93	-0.22	1.07	0.62
6	0.13	-0.07	0.73	-1.29	0.04	2.18	0.15	-0.96	1.18	-0.37
7	0.14	0.54	-0.11	-0.26	-0.88	0.38	0.51	0.45	1.44	-1.74
8	1.22	1.06	-0.69	1.02	-0.05	-1.03	-0.98	0.15	-1.24	0.37
9	0.33	-0.55	-0.82	-1.86	0.49	-1.29	0.06	-0.22	1.22	0.88
10	-0.02	2.26	1.85	1.21	-1.04	-1.28	1.21	2.34	1.50	0.36
11	1.28	0.12	-0.24	-0.43	-0.04	-0.70	-1.88	0.13	-0.07	-1.46
12	1.65	-0.33	-0.09	-0.80	-0.78	1.00	0.79	0.50	-0.52	-0.23
13	1.65	-2.53	0.37	-1.30	-1.50	-3.57	-0.55	-1.58	0.48	-0.75
14	0.71	0.60	-1.10	-1.43	1.37	0.47	0.70	1.73	0.27	0.40
15	-1.46	0.34	1.06	0.00	0.23	0.67	-0.65	0.57	-0.84	-1.56
16	0.35	-1.28	0.09	0.24	-0.31	-0.18	1.20	0.52	-0.65	1.00
17	0.54	1.19	1.38	0.61	-1.50	1.96	2.13	-0.74	0.59	-0.85
18	-0.95	-0.38	2.77	0.10	0.52	0.97	-0.15	0.51	-1.07	-0.83
19	-0.77	1.15	0.71	0.30	-1.12	-0.89	-0.73	0.74	-0.29	-0.02
20	1.83	0.93	0.67	0.39	-0.99	-0.49	0.41	-0.28	-1.58	0.44
21	-0.60	0.69	0.25	0.26	-0.99	0.77	-0.86	-0.29	1.29	0.18
22	0.09	0.09	0.13	1.21	-0.01	-0.06	0.64	-0.76	0.77	1.26
23	-1.41	-0.33	0.44	0.22	-0.83	-0.53	0.48	-0.74	1.08	-0.48
24	-0.58	-0.77	0.36	0.90	1.31	-0.24	0.39	-0.61	0.35	0.79
25	-0.62	0.26	-0.28	1.49	0.87	0.22	-0.87	-1.23	-0.85	-0.18
26	-1.34	-0.17	0.05	0.72	0.19	-1.44	0.77	-0.67	0.83	0.42
27	-0.68	-1.85	0.67	0.71	0.90	-1.31	-0.62	-1.00	0.64	-0.03
28	-2.10	1.12	0.85	-0.65	1.24	-2.92	0.89	0.57	-1.15	-0.43
29	-0.35	-0.44	1.19	0.88	1.02	1.10	-0.13	-0.59	-0.16	-1.17
30	-0.31	-0.23	-2.55	1.11	0.65	-1.17	-1.01	-1.07	3.01	-0.85
31	-0.18	-0.15	-0.57	-1.01	2.07	-0.72	1.21	1.54	1.33	-1.09
32	0.72	1.78	0.33	-0.86	-1.33	-1.72	0.69	0.81	0.11	-0.20
33	0.73	-0.32	-0.58	-0.04	1.82	0.35	-1.49	-1.91	-1.20	1.08
34	-1.69	0.96	0.74	-0.11	1.04	1.72	1.59	0.26	-0.26	1.20
35	-0.13	-0.69	0.77	0.12	-0.42	-0.54	-0.65	-2.23	-0.55	-0.53
36	-0.18	0.24	1.05	0.16	0.17	-0.53	0.31	-0.68	-1.37	-0.60
37	-0.77	0.81	-0.91	-0.40	0.50	-0.45	-0.54	-2.59	0.22	-0.04
38	0.52	-0.63	-2.11	0.24	-2.03	0.04	-0.62	-0.78	-1.82	-0.74
39	-1.92	0.41	-0.07	0.34	3.40	0.59	-1.43	-1.09	-1.75	-1.19
40	0.68	-1.64	-0.26	0.12	0.42	0.26	-1.71	-0.85	0.02	-0.65
41	-0.79	-0.83	-0.58	0.05	-1.38	0.07	0.44	-0.34	-0.93	-1.14
42	-0.90	-0.53	-0.42	2.43	-0.40	-1.99	-0.60	1.09	1.18	0.02
43	1.30	0.14	0.05	0.28	1.15	-1.01	0.41	0.57	1.13	0.54
44	0.21	0.66	-0.27	-0.98	-0.14	0.85	1.96	1.03	-0.45	-1.31
45	0.82	0.13	1.09	1.32	-1.35	-0.30	-1.02	-1.50	1.50	-0.38
46	0.32	-0.22	-0.10	-0.57	0.65	-1.83	0.69	1.53	1.29	0.50
47	-0.21	0.13	-0.24	0.79	0.37	0.44	-0.79	1.74	0.69	-2.20
48	0.85	-2.00	0.07	-1.61	0.40	1.74	-0.20	-2.36	1.15	-0.00
49	0.65	0.76	1.10	1.45	-0.86	0.65	-0.40	1.06	-1.00	0.84
50	0.67	-2.32	-0.06	-0.69	0.07	-1.64	1.32	-1.22	-0.79	0.08

$$\begin{array}{l} \Sigma(x) \quad -2.71 \quad 2.38 \quad 5.79 \quad 2.90 \quad -2.94 \quad -8.21 \quad -0.36 \quad -7.24 \quad 7.48 \quad -8.64 \\ \Sigma(x^2) \quad 45.7415 \quad 52.2154 \quad 45.9855 \quad 40.0394 \quad 64.0796 \quad 78.5411 \quad 46.0482 \quad 62.4734 \quad 56.0336 \quad 35.1822 \end{array}$$

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.11	-0.05	-0.97	-1.12	0.78	-3.27	-1.31	-0.93	-0.19	1.63
2	0.78	0.30	0.33	-0.96	0.98	0.75	-0.37	0.81	1.11	-1.02
3	-0.04	-1.72	0.25	-0.01	0.67	0.97	-0.76	0.41	0.38	1.86
4	-1.60	0.91	-0.79	-0.25	-0.31	1.33	0.75	1.55	1.37	0.23
5	-0.68	-0.36	0.30	1.15	-1.99	-0.04	-0.19	-0.10	-0.89	-1.20
6	1.64	0.37	0.34	-1.33	0.88	0.38	-0.93	-0.46	1.97	1.36
7	-0.38	-0.81	2.42	0.20	1.05	0.23	-0.13	-0.16	0.93	1.67
8	-0.96	1.52	-0.48	-0.71	-1.82	0.37	-1.05	-3.15	1.72	0.54
9	-0.30	-0.90	-2.02	0.65	0.12	1.21	0.70	0.96	1.26	1.72
10	-0.53	-1.51	0.73	-0.09	-0.01	-1.67	1.94	-1.89	0.20	-0.60
11	-0.04	0.94	-0.27	2.14	-0.64	2.04	-0.89	1.64	0.63	-1.40
12	-0.10	-1.02	-1.08	1.65	-0.31	0.69	0.22	-0.00	-0.93	-0.54
13	1.03	-0.67	1.96	-0.12	0.26	0.30	1.57	0.01	0.97	0.19
14	0.50	0.24	0.77	0.24	-0.95	-0.25	-0.78	-1.08	-1.03	1.49
15	0.48	-0.30	-1.75	-1.86	1.13	0.18	-0.04	0.05	0.24	-1.47
16	-0.45	-0.18	0.28	0.89	-1.71	-0.21	2.04	0.67	0.85	1.06
17	0.58	1.63	-0.05	0.30	0.40	-0.71	0.91	-0.14	0.31	1.27
18	1.49	-1.01	-0.80	-1.05	0.32	1.29	0.57	0.73	1.15	1.85
19	-0.68	0.30	-1.04	2.41	0.46	-0.56	1.53	-0.99	0.02	-0.58
20	-1.82	0.42	-0.21	-0.12	-0.00	0.16	-0.98	-1.34	-0.14	0.43
21	-1.15	0.78	0.21	-0.74	0.29	0.37	-0.42	-0.72	0.22	-0.05
22	-0.86	-0.18	0.19	1.05	1.05	2.05	1.73	0.17	0.30	0.65
23	0.64	0.00	0.66	-1.90	0.40	0.29	0.72	0.79	-0.81	-0.18
24	-3.48	-0.65	-0.58	2.51	0.87	0.25	-0.98	-0.60	0.75	-2.10
25	-0.43	0.55	0.37	0.03	-0.65	0.08	0.02	0.63	0.22	-1.48
26	1.51	0.26	-0.28	0.27	-0.26	0.69	0.14	-1.04	0.55	0.49
27	-0.46	0.34	-1.07	0.71	0.05	0.75	0.52	1.39	1.23	-1.00
28	-0.51	0.54	0.34	1.23	0.58	-0.86	0.64	0.52	0.55	2.44
29	0.28	0.72	-0.84	-1.27	0.66	-1.34	0.32	0.80	0.98	-1.17
30	-0.46	0.38	-0.41	-0.40	0.50	0.48	-0.29	-0.04	-0.16	1.51
31	-0.86	-0.15	1.98	-0.24	0.23	-0.17	1.58	-0.53	0.93	-0.08
32	0.65	0.10	0.66	0.04	-0.20	1.37	0.40	0.05	1.48	1.08
33	-0.23	0.18	0.14	0.40	0.84	-0.73	-0.86	0.35	-0.31	2.16
34	-0.18	-0.56	0.21	1.85	-0.29	-1.86	-1.28	-0.91	-3.31	1.26
35	-0.12	1.06	1.72	0.11	1.19	0.27	0.03	-0.07	-0.31	-0.34
36	-0.89	-0.08	-0.75	-0.78	0.84	0.16	1.52	2.22	-0.52	0.10
37	-0.25	-1.38	0.86	0.40	-0.50	-0.17	-1.89	0.24	1.04	-0.44
38	1.13	0.79	-0.19	0.07	0.01	-0.41	1.47	0.67	2.05	1.28
39	-0.87	-0.57	-1.24	-0.51	-0.91	1.11	-0.91	-1.72	-0.21	-0.18
40	0.33	0.93	-0.55	1.31	-0.78	-1.93	-0.03	0.64	0.18	-0.02
41	1.05	-0.72	-1.27	-0.01	-0.41	-0.93	-0.73	0.41	0.34	-0.77
42	1.53	-0.43	0.36	2.45	1.08	-0.50	-1.36	1.31	-1.05	0.09
43	0.88	0.58	0.93	-0.24	0.50	1.06	-0.01	-1.91	0.88	0.31
44	0.04	0.19	-0.95	2.20	0.72	-0.77	1.74	-0.24	-1.47	-0.85
45	0.46	0.71	0.69	1.34	-0.43	1.35	-0.08	-0.45	1.68	-0.69
46	-0.26	1.56	0.36	-0.62	-0.03	-1.20	0.86	0.49	-1.67	-0.66
47	0.24	-0.36	-0.48	-0.26	0.90	0.03	0.14	1.29	1.12	-1.00
48	-0.21	-0.75	0.15	-1.34	-1.79	1.51	0.35	1.34	1.27	-0.97
49	-0.75	1.21	0.94	-1.58	-0.09	-0.48	1.93	-0.43	-1.14	-0.11
50	-0.79	0.52	0.08	-0.61	-0.39	-0.47	-0.74	0.26	0.33	0.56

$\Sigma(x)$  -5.21    3.67    0.16    7.48    3.29    3.19    7.33    -1.78    14.17    4.63  
 $\Sigma(x^2)$  43.7125    30.8687    42.2416    64.5846    32.2005    54.2017    51.8115    52.0312    56.3441    62.1621

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.48	1.25	0.03	0.35	-0.72	-0.85	-0.44	0.90	0.35	0.74
2	0.15	1.53	2.36	0.69	0.16	1.20	0.77	1.29	0.03	1.16
3	-0.58	-1.79	0.88	0.28	1.13	1.30	-0.78	-0.58	-0.84	0.84
4	1.35	-0.33	-0.29	0.97	-1.27	0.92	-1.18	-1.23	1.01	-2.01
5	0.01	-1.12	-0.32	-3.39	-0.53	-0.45	1.56	0.34	-2.08	-1.01
6	0.82	-1.68	-0.65	0.61	1.94	-0.59	-1.62	-1.18	0.57	3.14
7	1.26	0.20	0.06	-1.09	0.51	-0.54	-1.08	-0.07	1.94	0.70
8	0.98	0.24	-0.88	-1.43	1.76	-0.23	0.35	0.02	0.73	0.34
9	-2.37	0.34	0.00	-0.47	-1.60	-0.94	-0.02	0.49	0.43	0.19
10	-1.63	1.37	-0.76	0.27	0.33	-1.49	-0.57	0.58	0.14	-0.84
11	-0.71	1.67	1.23	1.53	-1.77	-0.61	-0.75	-1.19	1.82	-0.83
12	0.34	-0.81	-0.59	-0.21	-0.17	1.45	-1.46	1.57	0.35	-0.06
13	0.34	-0.91	1.01	0.17	0.14	-0.19	-2.22	-0.34	0.35	-0.04
14	2.56	1.97	0.11	0.95	0.14	-0.37	-0.72	0.33	0.51	0.23
15	0.84	0.88	0.27	2.16	-1.45	-0.16	-1.02	0.49	1.09	0.24
16	-0.06	-0.00	-0.09	-0.47	0.15	-0.30	-0.96	1.34	-0.01	0.30
17	-1.77	-1.21	-0.36	1.36	0.80	0.41	0.47	-0.04	-0.69	-0.09
18	1.74	-0.96	-0.61	-1.54	-1.34	1.45	-0.40	-0.78	-0.77	0.10
19	1.16	0.58	0.28	0.50	0.35	2.22	1.42	0.16	-2.25	0.49
20	1.67	-0.21	0.95	0.88	-0.37	-0.24	-0.16	1.26	1.82	-1.76
21	0.61	-0.25	0.76	-0.19	-0.18	0.92	-0.77	1.15	0.09	0.82
22	0.90	1.72	-0.72	0.84	-0.52	-1.49	1.45	-0.65	0.04	0.03
23	-0.42	-0.30	-0.59	0.99	-1.41	0.77	-0.52	-0.04	1.13	-0.63
24	1.14	-0.86	0.07	0.77	0.39	1.00	1.18	-1.12	-1.70	-0.93
25	-0.25	0.34	1.57	-0.65	0.03	1.17	-1.22	-2.58	-0.05	-0.23
26	-0.55	-0.04	0.14	-1.45	-0.05	-1.12	1.27	0.83	-0.41	-0.47
27	-1.01	-0.30	-1.18	-0.71	0.19	0.20	0.70	1.23	-0.79	-0.57
28	1.19	-0.86	1.30	1.18	0.32	0.43	-0.68	-1.18	0.35	-0.25
29	-0.43	-0.69	-1.28	-2.20	-0.25	1.05	-0.87	-1.22	-1.42	-0.97
30	-0.16	-0.41	1.10	-0.26	0.28	0.55	-0.59	0.60	1.23	0.82
31	-2.41	0.27	-1.70	1.39	0.04	2.53	-0.89	1.09	0.22	1.06
32	0.05	0.62	-2.47	-0.55	0.30	-1.55	-1.39	0.10	1.26	1.75
33	0.42	-0.97	0.40	1.46	0.62	0.82	-1.09	0.94	-1.68	1.11
34	-0.21	1.06	0.17	-0.42	0.56	0.66	0.61	2.05	1.49	-0.21
35	-0.19	-0.89	0.80	-0.86	-0.27	0.06	0.83	-0.11	0.26	0.99
36	0.84	0.81	0.51	0.52	1.58	1.48	-0.44	-1.01	-2.32	-0.71
37	-0.27	-1.43	1.43	1.54	-0.01	1.49	0.14	-0.48	0.20	0.29
38	0.66	-0.29	1.51	-0.14	-0.86	0.64	0.35	1.58	0.70	-0.98
39	0.19	0.40	-0.96	0.49	-0.65	-0.80	-0.31	-0.51	0.49	-1.33
40	0.81	0.20	-2.02	-1.40	0.15	-0.73	0.90	-1.01	-1.71	-0.07
41	-0.97	0.90	-0.03	0.22	-1.32	0.69	1.41	-1.09	-0.01	0.85
42	1.09	0.15	0.94	-2.13	0.07	0.90	0.46	1.85	-0.60	0.68
43	-0.27	1.27	0.57	0.74	-0.68	0.90	-1.61	-0.96	-0.52	0.68
44	-0.99	0.33	-1.11	0.10	0.35	-1.84	0.64	-0.26	-1.14	-0.30
45	0.91	-0.54	-0.77	-0.37	1.50	-0.49	0.87	0.20	-0.66	1.96
46	0.10	-0.56	-1.49	0.39	-0.39	0.69	0.47	0.92	-0.87	0.35
47	-0.42	-0.01	-0.98	1.37	-0.90	1.86	-1.35	-0.74	0.99	-0.10
48	-1.57	2.03	-0.13	-0.40	0.03	-2.07	-0.23	-0.64	-0.32	1.94
49	-0.60	-0.63	0.70	-0.43	0.11	-0.09	-1.19	0.08	-0.24	-0.36
50	0.11	-1.11	0.50	0.71	0.51	2.86	0.11	0.16	-0.45	-0.24

$\Sigma(x)$  3.92 0.97 -0.33 2.67 -2.27 13.48 -10.57 2.54 -1.94 6.81  
 $\Sigma(x^2)$  52.8760 45.7279 49.0093 60.4029 34.6127 65.6682 47.2001 48.6764 54.3620 46.7529

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.38	-0.18	-0.10	-0.22	0.46	0.93	-0.60	-0.01	0.14	0.44
2	0.79	-0.24	0.03	-0.89	-0.22	-0.21	0.81	0.67	0.75	0.23
3	0.29	-1.74	-0.19	-0.87	-0.39	0.83	-1.28	0.14	-0.79	-0.76
4	0.10	-1.13	0.16	-1.39	-0.60	0.28	-1.11	1.22	1.11	-0.33
5	-0.92	-0.45	0.88	0.65	0.34	-0.27	0.07	2.59	-0.94	-2.10
6	1.41	1.35	0.98	0.09	2.43	0.27	1.78	-2.85	1.13	-1.38
7	0.14	-0.75	-1.51	-0.67	-0.55	-0.33	-0.87	0.38	-0.18	1.32
8	-0.77	0.35	1.06	-2.16	-1.73	1.02	0.45	-1.58	-0.64	0.23
9	-1.88	-0.65	-2.48	-0.22	-0.51	0.74	0.85	-0.35	-0.16	-0.95
10	0.69	-1.98	1.67	0.75	1.19	1.68	0.86	0.50	1.06	-0.35
11	-1.66	0.23	0.55	0.21	-0.29	-0.09	1.07	1.81	-0.78	-2.71
12	-1.91	1.34	-0.37	-0.02	-0.38	-0.18	0.23	0.24	-1.18	-0.24
13	0.37	-1.07	0.12	-1.04	-0.10	1.41	-0.55	0.33	-1.25	1.79
14	0.73	0.95	0.17	0.50	0.26	-0.08	1.81	-0.92	2.35	1.25
15	-0.11	0.08	-0.44	1.04	-0.25	1.80	0.56	-0.17	2.50	0.63
16	-0.54	0.17	1.71	-0.53	-0.13	-0.96	-0.59	1.04	-0.73	0.77
17	0.82	0.32	1.02	0.66	-1.33	0.96	-2.02	-1.27	0.64	0.09
18	-2.16	-0.55	-1.30	-1.19	-0.01	-1.20	-0.18	-1.57	1.37	0.90
19	-1.34	0.41	0.34	-0.32	0.55	-0.74	-0.26	-0.80	-2.06	-1.15
20	-1.60	-0.90	-1.48	-0.35	-0.75	-0.32	-0.97	-0.67	0.66	0.44
21	0.15	-0.70	1.06	0.10	-0.51	0.32	0.48	-1.83	0.20	-0.03
22	0.20	-0.02	0.66	-0.19	-0.66	-0.48	-0.89	0.88	-0.20	-0.15
23	-1.02	-0.66	-0.16	-1.39	-0.54	-0.78	-0.24	0.43	0.43	-1.03
24	-0.54	-0.45	0.80	-0.14	1.03	0.43	0.11	-0.56	-2.86	1.43
25	1.16	-0.69	0.60	0.25	1.04	-0.11	0.45	-0.17	-0.00	-0.95
26	0.06	0.04	0.92	0.10	-1.29	0.24	-0.15	-0.71	-1.58	-0.29
27	2.29	0.50	0.71	0.12	-1.05	-0.95	0.16	0.32	-0.56	2.56
28	1.70	0.87	0.43	-0.65	1.51	-1.19	0.16	-0.48	1.47	1.10
29	0.62	0.28	1.97	-0.42	-0.32	0.56	0.38	0.98	0.08	-0.41
30	1.48	0.85	1.13	1.10	0.17	-1.09	-0.66	0.21	0.85	0.12
31	-0.97	0.41	-0.43	-1.33	-0.27	-0.95	0.17	-1.86	-0.30	-1.03
32	-1.07	0.11	-0.74	0.26	0.08	0.81	-0.36	1.20	0.34	2.36
33	1.77	0.03	-0.38	-0.14	-1.15	2.32	-0.08	-1.06	-1.22	1.22
34	-0.94	0.97	-0.44	0.35	-0.93	-0.05	-1.01	-1.67	-0.02	0.63
35	0.07	0.90	0.46	1.79	-1.49	-1.14	0.03	1.43	0.45	-0.35
36	-0.13	-0.07	0.14	-1.33	1.15	1.20	-0.64	-0.52	-1.69	-0.62
37	-0.70	0.08	-1.43	0.03	2.65	-0.26	0.29	-1.06	1.55	-1.89
38	-0.31	-2.16	-0.04	0.99	1.25	1.83	0.66	-0.03	0.65	0.01
39	0.71	0.09	-0.16	-0.78	0.41	-1.31	-0.21	1.55	-0.08	-0.71
40	-0.74	0.52	-0.05	-0.89	-0.65	0.36	0.50	1.11	0.68	-2.42
41	2.24	-0.07	-0.02	-0.92	0.14	0.87	0.03	0.82	1.58	1.11
42	-0.45	0.50	-0.66	-0.17	0.54	-1.13	-0.34	0.97	-0.61	2.70
43	-1.38	1.32	0.60	0.30	-0.26	-0.09	-0.31	0.23	0.04	1.57
44	-0.38	-1.70	0.22	-0.78	-0.79	0.28	0.98	0.37	-0.66	1.10
45	-0.21	0.01	0.09	-1.25	0.07	1.55	0.42	2.50	-1.87	-0.12
46	2.76	-0.16	-0.80	-0.37	-0.70	0.40	-0.03	0.20	-0.79	-1.65
47	-0.98	0.08	0.86	0.08	0.52	-1.11	1.59	-0.02	-0.34	0.48
48	0.86	0.23	1.25	0.60	1.08	0.64	-0.43	-0.32	0.46	2.54
49	0.77	0.06	1.24	-0.92	-0.21	-0.97	0.60	-0.65	1.60	-1.75
50	-1.54	1.74	-0.81	1.46	-0.90	0.09	0.59	-1.26	-0.40	1.99

$\Sigma(x)$  -3.45    -1.53    7.84    -10.11    -2.09    5.83    2.31    -0.27    0.20    5.64  
 $\Sigma(x^2)$  67.9605    35.0665    41.4298    34.3449    41.8651    42.7845    29.1699    62.9517    61.6894    85.2158

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.50	-1.37	0.27	0.34	1.15	-1.22	1.20	-0.16	0.97	-0.15
2	1.88	-1.16	-0.44	0.94	-0.42	1.50	1.15	-0.76	-1.53	1.40
3	-0.14	0.20	0.74	0.67	-0.72	-0.94	-0.68	-1.05	0.48	-1.23
4	0.13	-0.51	-0.51	1.48	-2.43	-0.36	0.96	1.11	-0.50	0.90
5	0.01	1.12	-1.44	2.63	1.47	-0.64	0.43	1.80	-0.54	1.90
6	-0.08	-0.05	1.37	-0.57	-0.18	-0.69	1.83	0.24	-1.20	0.72
7	-1.08	0.62	-0.20	0.66	-1.13	-0.01	0.92	1.10	0.07	0.11
8	1.82	0.44	0.94	0.01	-0.73	-0.18	0.16	1.57	1.31	0.74
9	2.20	1.69	-0.39	1.76	0.52	-0.80	0.45	-0.63	0.11	-0.86
10	0.90	1.30	0.44	0.17	0.22	0.36	0.13	1.73	0.38	1.42
11	0.32	-0.72	-2.00	1.68	-0.71	0.17	0.06	-0.70	-1.12	0.59
12	-0.86	0.00	0.20	-0.15	-0.21	-0.58	0.63	0.27	1.46	0.24
13	-0.51	-1.04	0.29	1.54	0.03	-0.34	1.47	-1.29	0.45	-0.75
14	0.88	-0.44	1.34	-0.70	-0.09	0.17	-0.80	-1.37	0.30	-0.70
15	0.24	-0.62	-0.23	-0.34	-0.15	-0.84	0.94	0.74	-1.16	-1.09
16	1.05	0.84	-0.44	-1.84	-0.48	-0.55	0.01	-0.62	-0.17	0.78
17	-0.21	-0.25	-0.58	0.27	0.52	-0.74	-1.52	-0.21	0.29	-0.05
18	1.35	-0.16	-1.44	0.43	-0.55	0.39	0.80	-0.08	-1.49	-1.32
19	0.73	-0.04	-0.84	1.33	-0.20	1.18	2.60	0.84	0.50	0.47
20	-0.35	-0.67	-0.02	0.09	0.96	0.39	1.16	0.05	-0.52	0.74
21	0.10	-0.09	-0.52	-2.36	-0.15	1.98	-0.04	-1.97	0.84	-1.43
22	-0.66	1.17	0.98	-0.23	-0.66	-0.27	0.04	0.93	-0.13	1.24
23	-1.75	1.24	0.10	0.70	-3.09	-0.77	0.04	-0.06	-0.40	-0.45
24	-0.15	0.16	-0.04	0.78	0.20	0.15	-0.53	-0.60	1.03	0.69
25	-1.75	1.20	-1.05	1.40	-2.30	-0.27	-0.76	0.17	0.27	-0.44
26	0.07	-0.24	1.14	-0.31	0.02	0.16	-1.14	1.63	0.22	-0.07
27	-0.80	0.75	1.93	-0.65	0.04	-0.26	-0.80	-0.01	1.25	0.14
28	0.29	-0.50	-2.00	0.98	1.38	0.91	-0.64	0.69	-2.25	2.15
29	1.33	-0.17	0.84	-0.57	0.31	0.24	-0.37	-1.33	0.29	-1.06
30	-0.06	0.26	-0.36	-0.50	1.53	-1.20	0.27	0.88	-0.48	-0.11
31	1.16	0.01	2.22	0.76	0.06	-0.55	0.49	-1.12	-0.53	-2.38
32	-1.18	-2.29	-1.75	-0.16	-0.52	-1.00	2.00	0.81	-0.25	0.69
33	1.43	1.73	0.22	1.81	2.32	0.13	-1.00	0.50	0.13	-1.00
34	1.63	0.15	-1.65	0.52	0.23	0.39	-0.01	-1.14	-1.02	-0.16
35	0.52	-0.17	0.13	1.91	-0.16	0.15	-0.20	0.11	-2.71	-0.39
36	-0.52	-0.63	-1.54	-1.40	0.03	0.40	0.13	1.54	-0.31	-0.46
37	0.61	1.01	-0.59	-0.32	-0.16	0.03	-1.35	0.49	0.18	2.18
38	-0.39	-0.02	-1.24	0.01	1.39	0.00	0.76	-0.00	2.53	1.59
39	-0.86	-0.94	0.55	-0.73	-2.12	-0.77	0.84	0.49	0.33	0.49
40	-0.76	-1.13	-0.41	-1.51	-0.37	0.54	-1.16	-0.53	-1.52	0.74
41	-0.49	-1.13	0.03	-0.88	-1.10	-0.99	0.52	0.61	-0.65	0.09
42	1.22	-0.27	-0.41	-0.77	1.28	0.97	0.68	1.91	-1.25	0.39
43	2.55	0.35	0.78	1.11	-0.27	-0.28	0.30	-0.67	0.27	-0.71
44	1.12	0.91	0.56	-0.62	-0.63	1.39	-2.41	0.49	-0.48	0.81
45	0.81	0.20	1.69	0.05	0.08	-1.44	-0.98	-0.18	-0.87	0.03
46	-1.66	0.69	0.30	-0.79	0.95	1.29	-0.37	-0.79	1.27	-0.49
47	-1.10	1.84	0.83	-0.57	0.78	0.01	-0.13	-0.89	-0.63	0.73
48	0.01	-0.82	-1.72	1.77	1.07	-0.34	0.16	0.32	-0.19	0.63
49	1.04	1.34	2.64	0.88	0.95	0.58	-1.87	0.50	-0.05	2.35
50	-1.19	0.80	1.27	0.71	0.44	0.42	1.03	-0.20	0.40	0.93

$\Sigma(x)$  9.35 4.59 -0.01 11.42 -1.60 -2.13 5.40 5.16 -6.62 10.58  
 $\Sigma(x^2)$  55.0363 39.8491 59.5543 57.4398 53.6696 28.1391 49.4120 43.0644 47.2002 52.2316



## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.47	-2.13	-0.12	0.62	1.08	0.15	1.06	0.39	2.56	-0.70
2	-0.05	0.82	-0.30	1.77	-0.05	0.69	0.56	-1.32	-0.10	-0.47
3	1.81	0.87	-0.99	-0.06	0.50	0.27	2.29	-1.38	1.57	-0.43
4	0.90	-0.31	0.14	0.03	-1.19	2.59	-0.18	0.79	0.38	-0.47
5	0.79	1.53	1.85	-1.72	0.82	-0.45	0.22	-0.03	-0.16	0.64
6	0.31	0.76	0.40	-0.41	0.38	0.09	-0.32	-1.44	0.22	-0.86
7	0.70	0.08	-0.39	-0.11	-0.53	-1.18	1.00	-1.63	-1.86	0.47
8	-1.12	1.62	0.40	0.60	-0.85	-0.49	-0.15	0.47	-0.15	-0.03
9	1.08	-0.32	0.13	0.63	2.22	0.36	-1.71	1.13	-0.10	0.12
10	-0.49	-0.63	-0.46	-0.30	-0.61	0.86	2.02	-1.29	0.12	-2.02
11	-1.04	-0.85	-0.65	0.44	0.78	0.42	0.66	0.99	-1.39	-0.40
12	-1.10	0.75	-1.30	-2.36	-0.43	0.54	1.89	-0.41	-0.27	-1.42
13	0.33	-0.19	-0.27	-0.15	0.69	-0.52	1.50	-0.00	0.17	1.45
14	2.10	-1.20	-1.41	0.63	0.78	-1.32	0.26	-1.03	0.68	-2.54
15	0.85	1.92	-0.37	-0.29	-0.06	1.42	-0.05	0.32	1.26	0.26
16	1.11	1.39	0.29	-0.91	1.37	0.66	-1.19	-0.08	-1.47	0.57
17	-0.72	-1.69	0.54	-0.06	0.26	1.18	0.03	-0.69	-0.72	-1.81
18	-1.00	-0.46	-0.46	-0.72	-0.49	0.29	0.28	0.54	0.96	0.67
19	0.15	-0.81	-0.89	-0.28	1.88	-1.48	0.14	0.94	-0.28	1.37
20	0.07	0.11	0.53	-0.07	1.22	0.65	-1.87	2.18	0.94	-0.82
21	-1.39	3.21	-0.96	-0.77	-0.52	-0.27	-1.12	0.07	-0.52	-1.13
22	1.20	0.02	0.84	0.53	0.04	-1.21	-1.58	0.25	-1.19	1.96
23	0.20	-1.12	-0.13	-1.25	-1.79	-0.97	0.12	0.02	-0.50	-0.46
24	0.53	-1.07	-0.85	-0.13	-0.62	-1.93	-0.96	-0.56	0.58	1.51
25	0.18	-0.02	-0.70	0.28	-1.77	1.12	-0.67	2.19	0.71	0.76
26	1.37	0.85	-0.45	-0.30	1.32	-1.04	0.96	-0.88	-0.44	1.32
27	-1.87	-0.14	-1.05	-1.70	0.86	0.13	0.71	0.12	-1.95	1.07
28	2.34	-1.25	0.35	-1.63	0.17	-2.38	-1.88	-1.76	1.60	0.21
29	-0.01	0.44	0.38	0.38	-2.58	0.10	0.74	0.45	-0.19	0.74
30	0.33	0.60	-1.24	1.65	1.17	-1.37	0.86	0.51	-0.15	-0.04
31	1.41	-1.89	-0.61	-0.82	1.45	1.64	-0.42	-0.27	0.65	0.68
32	0.69	-1.01	1.46	-1.51	-2.26	-1.02	1.05	-2.02	-0.32	-0.37
33	-0.60	1.04	-0.57	-0.15	0.28	1.06	-0.94	0.15	-0.61	0.57
34	-0.27	-1.43	-0.69	0.69	-2.02	-0.37	0.47	0.97	0.87	-0.55
35	0.37	-0.95	-1.45	2.11	-0.13	-2.59	0.27	-0.68	-1.29	-1.01
36	-2.07	-1.01	-0.28	-0.85	-0.91	0.28	-0.39	-0.45	-1.60	-1.61
37	2.78	-0.46	1.22	0.39	1.42	2.31	0.52	-1.13	-0.39	0.48
38	-0.51	-1.31	-0.82	-0.11	-1.04	-0.57	1.83	-0.27	2.55	-0.17
39	2.91	-1.04	0.65	0.89	-1.95	-0.79	0.49	-0.32	-1.17	0.47
40	0.48	-0.42	0.83	-0.10	0.18	2.01	0.46	-0.87	-1.11	-1.65
41	0.75	-0.65	0.17	-0.07	-0.69	0.61	0.28	-0.38	-1.06	-0.05
42	1.18	0.29	0.02	-0.12	0.27	-0.99	-0.07	0.29	0.23	0.17
43	-0.28	-1.41	-1.95	0.01	-1.84	1.01	-0.74	-1.06	0.95	0.64
44	-2.99	0.98	0.82	1.06	-0.34	2.44	2.06	-0.29	1.66	-1.22
45	-0.52	0.54	-1.62	0.88	0.89	1.32	0.28	1.06	0.46	-0.12
46	-1.35	-0.88	-3.40	-1.44	-0.56	0.99	-0.44	-0.57	-0.42	0.41
47	-0.58	0.05	1.18	0.37	-2.22	-0.57	-0.66	0.49	0.81	-0.28
48	-0.28	-0.17	0.29	-0.10	-0.84	0.44	0.19	-0.24	-0.72	1.12
49	-0.97	-1.52	-0.89	0.34	-0.56	-0.45	1.42	-0.13	1.24	1.05
50	-0.12	-0.07	2.98	0.24	-0.44	1.40	-0.22	-1.17	0.52	-1.62

$\Sigma(x)$  7.12 -8.54 -9.80 -3.95 -7.26 5.07 9.06 -8.03 1.56 -3.54  
 $\Sigma(x^2)$  71.6176 59.4836 55.7594 40.1459 67.0180 70.9527 51.9766 43.1233 54.1306 50.8614

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.36	-0.69	0.13	-1.04	0.06	-0.97	1.02	1.12	-0.44	-0.13
2	0.18	-0.51	0.60	0.95	-0.19	-1.33	-0.54	-1.28	0.49	1.17
3	0.27	-0.32	-0.13	0.52	0.75	-2.16	0.19	-0.67	-1.88	-0.29
4	-1.29	-0.44	-0.62	1.09	-3.03	-1.50	-1.40	1.28	0.47	-0.13
5	-0.26	1.75	2.19	0.67	0.30	-0.15	-2.49	-1.38	0.30	-1.48
6	-0.26	-1.57	-0.83	-1.05	1.35	1.23	1.34	-0.28	0.30	1.93
7	-0.27	0.43	1.02	0.58	0.43	-0.31	1.75	-0.22	0.00	-0.17
8	-0.85	-1.41	-1.15	-0.93	-0.07	0.16	1.07	0.89	1.36	-1.36
9	0.24	0.23	2.09	2.50	1.31	-1.44	-0.06	-0.51	1.31	0.39
10	-1.21	-1.73	-0.78	-1.32	-2.46	0.19	0.81	1.00	-2.51	-1.21
11	-0.17	-0.94	-1.02	-0.55	-0.36	0.32	-1.85	0.37	-1.49	0.07
12	-1.57	0.99	-1.24	1.11	-0.30	-1.79	-0.97	-0.71	-0.18	1.03
13	0.84	-1.59	0.35	0.31	-0.20	-0.06	0.52	-0.18	-1.26	0.37
14	0.80	0.19	-1.32	0.42	-0.13	1.39	-0.83	-1.56	0.16	1.96
15	-1.27	-1.51	0.48	-0.28	0.29	-0.66	1.98	0.79	-0.88	-0.93
16	-0.38	1.23	0.02	-0.34	-0.95	0.22	1.79	-0.14	0.43	-0.32
17	0.42	1.21	1.44	-2.30	1.25	2.38	0.35	0.97	0.18	-0.92
18	-0.45	-0.88	0.35	-0.93	-0.74	-1.25	-0.50	-0.15	-0.80	0.51
19	0.34	-0.18	-0.20	0.05	-2.53	0.41	-0.74	1.02	0.64	0.22
20	0.16	-0.11	0.63	-0.55	0.83	-0.40	0.52	1.63	-0.86	0.99
21	1.25	0.67	-0.42	-0.52	1.88	0.48	1.21	-0.33	0.48	0.95
22	-0.18	1.47	2.03	0.24	-0.18	-0.49	0.10	-0.14	-0.29	0.54
23	-0.79	2.29	-0.04	0.04	1.50	0.92	0.71	-0.31	1.82	0.84
24	0.87	1.07	-1.16	0.73	-1.63	-0.10	0.97	0.77	2.37	-0.83
25	0.21	-0.08	0.82	-2.29	0.68	0.49	0.77	-0.77	-0.40	0.69
26	-1.48	-0.61	-0.03	-0.94	-0.48	-1.33	-0.96	-0.06	0.72	0.02
27	-0.06	-0.29	-0.76	-0.61	0.06	0.08	0.96	-0.33	0.07	0.74
28	-1.32	0.33	0.46	0.15	0.19	0.60	-1.67	-0.24	-1.45	-0.11
29	-0.75	-0.23	0.29	0.69	-0.21	-0.10	0.82	-0.90	0.10	0.39
30	-1.11	-0.19	-0.33	-0.22	-0.02	-0.20	-1.66	-1.20	-1.56	-0.89
31	-1.20	0.44	0.33	-0.71	-0.04	0.77	0.74	-2.04	-0.37	0.36
32	-1.48	-2.45	-0.06	-0.11	-1.22	0.26	-1.11	-0.71	0.84	-0.46
33	0.41	0.20	-1.10	0.36	-1.48	-1.50	-1.80	-0.64	-0.91	1.14
34	0.69	0.32	-0.90	-0.51	2.88	0.17	-0.15	0.08	-0.21	-0.81
35	1.75	1.10	-0.55	-2.13	-0.17	-0.18	1.09	2.34	-0.16	0.74
36	0.27	1.23	-0.72	0.66	-1.75	-1.13	-1.15	-0.74	-0.63	-0.29
37	-1.59	-1.35	0.19	-0.96	0.50	0.36	0.53	-1.75	0.71	-0.38
38	0.74	-0.05	-1.08	0.88	0.73	0.68	1.02	1.46	-0.56	-0.55
39	-0.67	-2.71	-0.57	-0.54	-0.31	-0.35	1.07	-0.68	-0.97	0.93
40	-0.25	0.13	-0.88	1.06	1.40	1.18	-1.28	-0.45	0.66	0.33
41	-0.23	0.43	0.80	1.17	-0.96	-0.81	0.55	-0.42	-0.90	-0.28
42	-0.32	2.24	0.94	-1.56	1.59	1.75	0.08	0.51	1.01	0.25
43	-0.85	1.74	0.55	0.85	-0.22	-1.22	1.62	0.38	-0.41	-0.77
44	0.36	0.52	0.54	-0.42	0.18	-0.43	0.56	0.06	-0.68	-0.72
45	-0.88	0.05	0.98	-0.01	-0.94	0.64	0.11	1.14	-0.24	0.15
46	-0.07	-1.17	-1.33	-1.80	1.36	-0.91	0.49	-0.33	1.22	0.40
47	-1.07	0.51	-0.74	-1.58	-0.47	0.68	-0.31	-0.46	-0.27	1.60
48	-0.27	-1.14	0.47	-1.87	0.26	-1.26	-0.56	-0.13	-0.20	-0.74
49	0.34	0.88	-0.49	-0.31	-1.81	1.43	-0.08	-0.77	1.38	-0.23
50	0.48	0.52	1.77	1.03	0.70	0.04	-0.28	0.71	-1.36	-0.47

$\Sigma(x) = 13.29 \quad 0.02 \quad -1.97 \quad -10.32 \quad -2.37 \quad -5.20 \quad 4.35 \quad -3.96 \quad -4.85 \quad 4.24$   
 $\Sigma(x^2) = 35.2867 \quad 62.6654 \quad 39.2171 \quad 54.6394 \quad 67.5903 \quad 47.5074 \quad 57.0517 \quad 41.5878 \quad 47.5595 \quad 32.7778$

Second Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	-0.80	-0.77	0.00	0.67	0.26	1.49	2.19	0.66	-0.38	0.43
2	0.50	-0.47	-1.19	-0.45	0.96	-0.45	0.35	0.48	-0.45	-0.30
3	-0.28	0.41	0.53	0.81	0.66	-0.53	0.02	0.40	-0.36	0.20
4	1.38	1.29	0.26	0.06	-0.48	0.08	0.12	1.23	1.42	0.43
5	0.69	1.25	-1.26	2.64	0.39	0.23	0.40	0.20	-0.92	-0.49
6	-0.54	2.23	0.14	1.35	0.05	-0.38	0.65	-0.65	-0.85	-0.03
7	0.19	0.70	-0.01	0.90	0.44	0.73	1.53	-0.86	1.06	0.22
8	0.83	-0.49	0.11	1.13	-0.06	-0.85	-0.69	-0.50	1.00	0.72
9	-1.02	0.71	-1.48	1.71	-0.83	-0.08	-1.27	-1.21	0.06	-1.98
10	1.21	-0.46	0.96	-0.96	0.06	-1.17	0.42	1.44	0.61	-1.00
11	0.19	1.87	-0.90	-1.92	-2.79	0.70	1.04	-0.84	0.75	-1.69
12	-0.60	-1.77	-0.35	0.77	-0.12	-0.27	0.28	1.09	2.40	1.73
13	0.13	-0.13	-0.35	-0.95	1.42	-0.32	0.05	1.37	-0.22	-0.83
14	-0.18	-0.39	-1.63	-1.38	0.15	-0.39	-0.66	0.53	-0.07	-0.33
15	0.51	1.83	1.02	-0.12	0.45	-0.37	-0.89	0.85	0.12	0.72
16	1.79	-0.02	-0.14	-0.09	0.40	0.58	0.69	1.65	1.43	0.79
17	0.70	0.91	0.50	-0.45	0.18	-0.91	-0.10	0.93	0.79	-0.20
18	-0.49	-0.88	-0.04	0.98	1.51	0.55	0.53	-1.60	-0.68	-2.05
19	1.03	-0.66	0.13	0.38	-0.23	0.33	0.03	-0.48	0.70	-0.04
20	-0.39	0.34	-1.38	1.16	-0.34	-0.18	-1.83	0.52	-0.35	0.62
21	-0.35	0.63	-0.79	-0.16	-1.08	-1.09	2.16	0.32	-0.30	0.52
22	1.22	-0.16	-2.02	-1.33	-0.44	-1.35	0.67	-0.73	2.40	-0.36
23	0.55	1.23	0.72	1.17	-1.24	-1.60	0.43	1.67	0.95	2.28
24	-2.49	0.93	2.67	0.32	-0.90	0.78	-0.39	-0.22	-1.35	1.02
25	-1.45	1.10	0.09	1.69	-0.74	-0.45	0.55	-2.08	0.47	0.50
26	-0.43	0.26	-2.42	-0.13	-0.08	-0.55	0.62	0.35	1.50	0.71
27	2.20	-1.98	0.25	0.47	-0.34	1.43	-0.63	0.67	-1.14	0.34
28	-0.23	-0.24	-0.04	0.59	1.43	-0.16	0.10	-1.45	-0.46	1.28
29	-0.98	0.66	0.12	1.49	-0.41	0.93	0.22	-0.74	-1.05	-0.41
30	0.82	-1.44	0.23	-2.55	-0.34	-0.54	-1.12	1.73	0.59	-0.98
31	-0.66	1.83	-0.07	-0.60	0.21	-0.25	0.63	1.45	-0.37	0.77
32	-1.02	-2.08	0.14	1.80	1.00	-0.40	-0.64	0.46	1.30	-0.03
33	1.72	-0.64	-1.46	-1.28	1.40	0.84	1.89	-0.08	0.85	-1.64
34	0.29	0.67	1.10	-0.37	0.26	0.45	0.93	0.54	-0.59	0.36
35	-2.11	-1.53	1.16	0.42	-0.47	0.56	0.12	-0.00	-0.27	0.22
36	0.27	-1.23	0.61	-0.76	0.51	-0.04	0.31	0.39	-0.87	-2.14
37	2.55	-0.01	-0.50	-0.67	1.64	1.28	-2.23	0.29	1.65	0.86
38	-1.15	0.55	0.48	-0.46	0.25	-0.25	-1.28	0.50	-0.04	0.74
39	0.29	0.84	0.26	1.25	0.05	-0.75	0.34	0.32	-0.47	0.58
40	-1.31	0.23	-0.13	1.72	-1.21	-0.31	0.14	0.93	1.80	0.18
41	0.61	1.61	0.77	-0.18	0.86	-1.87	0.73	-0.60	0.47	-1.88
42	-1.68	1.54	-2.03	-0.94	-0.39	-0.60	1.13	-0.26	1.41	-0.58
43	0.88	-0.31	-1.93	0.31	-0.69	-1.91	-0.39	0.85	-0.00	1.09
44	0.37	0.07	-0.49	-1.97	0.05	1.37	-0.80	-0.15	0.73	0.47
45	-0.68	-1.80	-1.89	0.01	0.16	1.07	0.92	0.42	-2.00	0.56
46	-0.51	-0.10	-0.14	-0.72	0.19	-0.60	0.47	-0.06	-1.27	-0.06
47	1.60	-0.04	0.50	-1.34	1.19	1.04	2.84	0.57	0.44	1.04
48	0.51	-0.41	-0.87	0.31	-1.97	0.45	-0.04	0.34	0.19	-2.24
49	-0.59	0.65	-1.22	0.46	-1.55	0.25	-0.54	-1.29	0.05	-0.87
50	0.10	0.49	0.79	1.36	0.86	0.59	1.17	-0.62	1.60	-0.67

$\Sigma(x)$  3.19 6.82 -11.19 6.15 0.29 -2.89 9.71 8.73 12.28 -1.42  
 $\Sigma(x^2)$  56.3245 56.0898 52.8271 61.9029 39.7287 34.3983 49.9747 40.6715 51.7622 51.5202

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.18	0.78	-1.25	-0.11	0.23	3.13	-0.01	0.52	-1.00	1.90
2	0.12	0.14	1.26	-0.76	-0.57	-1.32	0.32	-0.30	-0.43	-1.97
3	1.41	-0.45	-0.05	1.07	-0.32	1.35	-0.33	1.90	2.30	-1.41
4	-0.75	-0.93	0.43	1.13	0.26	-1.59	-0.34	-0.28	-1.36	-0.83
5	-1.40	-0.42	-1.21	-1.14	-0.37	0.27	1.58	-1.17	0.37	-0.33
6	0.38	-1.10	-1.13	-0.50	0.15	0.12	1.02	-0.06	-2.60	-0.96
7	0.16	-0.42	0.66	-1.82	0.44	1.45	-1.36	1.32	-3.83	0.42
8	0.21	-0.46	0.23	1.55	-0.12	1.45	-0.49	0.64	-0.80	1.06
9	-1.14	-0.40	-0.45	1.52	-1.41	-0.23	-0.03	0.08	-0.66	-0.28
10	0.02	1.50	1.16	-0.03	-0.22	-0.10	-0.42	0.21	0.08	-2.56
11	-0.41	-0.96	1.47	-0.74	0.69	0.77	0.46	-0.77	0.57	-0.06
12	0.81	0.22	0.09	1.56	-0.19	0.37	-0.89	1.05	1.42	-0.70
13	-0.51	0.41	-1.09	3.32	-1.70	-0.55	1.32	0.06	0.99	0.44
14	-1.70	-2.00	-0.78	0.00	-0.36	1.33	0.06	-0.01	-0.24	0.37
15	0.45	0.88	-1.04	-0.07	0.95	0.91	-1.56	0.35	-0.50	0.29
16	-1.08	-1.13	0.32	-1.29	0.23	0.04	-1.25	-1.08	-1.43	0.01
17	-0.57	-0.24	0.24	-1.38	-1.81	0.57	0.76	0.75	0.36	-1.44
18	3.68	0.55	-0.38	-1.01	1.53	-0.14	-0.93	0.07	1.02	-0.80
19	-1.34	-1.03	-0.19	1.06	0.20	-1.69	0.26	1.60	0.42	-0.23
20	2.76	-1.06	-1.05	0.15	1.10	-0.20	-0.04	0.34	-1.45	-0.26
21	-2.22	-0.99	0.83	1.54	1.59	0.53	0.40	-1.50	0.36	-0.72
22	1.51	-0.37	0.24	-1.16	-0.49	-1.87	-0.00	0.86	-0.97	-1.06
23	-1.20	0.62	-0.50	-0.11	0.23	-0.81	-2.22	-2.21	0.29	1.33
24	0.17	-0.11	1.86	-1.02	1.70	0.85	-0.85	-1.04	-0.08	-1.01
25	-1.00	0.04	0.02	0.18	0.40	2.54	1.66	0.14	0.04	-1.40
26	-0.59	-1.56	2.58	-0.72	-0.98	-0.49	-1.03	0.48	-1.30	-0.58
27	-0.35	-0.01	-0.53	-0.33	-0.91	0.33	1.39	-2.37	-0.43	-0.06
28	0.70	-1.27	-1.96	-0.02	-0.83	0.57	0.23	0.39	0.74	0.71
29	-1.32	0.23	0.38	0.08	-1.38	2.52	-0.98	-0.58	1.41	-1.71
30	0.61	-0.67	-1.14	0.60	0.59	-0.66	0.26	0.90	1.44	-0.51
31	-0.05	-1.92	0.23	1.16	-0.42	-0.38	0.78	-1.53	-0.24	0.26
32	-0.51	0.70	-0.31	1.29	-0.09	-0.65	0.63	-1.78	-1.00	-1.22
33	-1.46	0.86	1.83	0.06	0.09	1.17	0.65	0.73	-0.57	-0.37
34	0.38	0.16	1.15	-0.26	1.33	-0.39	1.11	0.21	-0.95	0.04
35	0.95	0.17	2.08	0.31	-1.78	-0.87	-0.83	-0.98	-0.47	-0.44
36	1.00	-0.58	-0.39	-1.02	0.39	0.44	-0.39	0.85	-0.13	0.70
37	0.52	0.37	-0.43	0.43	1.42	-0.85	-0.32	1.48	0.56	-0.57
38	-0.34	0.46	-0.23	1.19	-0.52	0.52	0.78	-1.12	-0.72	1.16
39	2.25	2.46	0.78	0.66	1.32	0.12	-2.37	-0.05	0.11	-0.41
40	0.38	0.13	0.13	-1.93	0.99	-1.03	-1.43	-1.25	1.89	-0.06
41	-0.55	-0.32	-2.43	0.24	0.41	-0.06	-1.04	0.94	-0.22	0.06
42	-0.48	0.61	-1.75	0.87	1.14	0.33	-0.32	1.32	0.36	-0.61
43	-1.17	-2.43	0.32	0.13	-0.88	0.28	0.42	0.69	-0.60	-1.16
44	-0.78	0.94	0.61	-0.79	-0.72	0.79	0.13	-2.62	-0.74	-0.69
45	-2.11	-0.42	-0.40	1.21	-0.46	0.27	0.60	-1.33	1.33	-0.06
46	-1.51	-0.23	0.20	-1.01	-0.82	0.67	-0.18	0.52	-0.51	-1.75
47	-0.81	0.63	-0.46	1.35	-1.03	0.25	-0.84	1.22	-1.95	1.36
48	1.61	1.97	0.99	1.81	-0.23	-2.31	0.51	1.13	-0.94	0.52
49	-0.05	-1.77	-1.35	-0.08	1.20	-0.28	-0.11	-0.05	1.28	1.89
50	1.62	0.17	0.50	0.69	0.62	0.67	-0.16	-0.97	-0.94	0.23

$\Sigma(x)$  -2.52 -9.15 0.09 7.86 0.59 8.14 -5.39 -2.30 -9.72 -13.47  
 $\Sigma(x^2)$  73.9592 51.0511 54.3527 57.6264 41.7809 58.5538 41.6753 58.4690 65.0036 48.5209

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.19	1.13	-0.15	-0.46	1.98	-0.81	-1.39	0.06	-0.37	-1.33
2	1.74	-0.07	-1.09	1.00	-0.66	0.85	-1.16	1.19	0.04	-0.86
3	1.33	0.51	0.80	-0.88	1.46	0.05	0.63	0.67	-0.95	-0.12
4	0.00	0.80	0.93	1.16	1.55	-0.18	1.06	-0.28	0.55	1.95
5	0.20	0.47	-0.56	-0.35	0.06	0.66	0.12	-0.67	0.66	1.69
6	0.47	-2.16	0.48	0.95	0.46	1.14	0.55	-0.36	-0.91	-0.66
7	-1.94	-0.55	-0.90	-0.98	1.40	0.51	1.48	0.39	-0.86	-0.94
8	0.54	-0.06	-0.66	1.06	-1.19	-0.41	0.44	-0.53	-1.61	0.25
9	-0.50	-0.39	0.59	0.26	0.15	0.87	-1.24	0.46	0.23	0.87
10	0.29	0.39	-0.77	0.52	1.28	-1.35	0.24	0.49	-0.82	-0.52
11	-0.94	1.85	1.27	-0.11	0.66	1.09	0.19	-0.42	0.63	0.69
12	-0.92	-0.46	1.63	-0.23	1.44	0.37	1.27	0.79	0.05	0.39
13	0.07	-1.38	-1.34	-0.41	0.41	-0.36	-0.77	-0.90	0.83	0.01
14	-0.57	1.75	-1.53	0.30	0.04	-0.29	-0.26	0.37	0.58	-0.93
15	-1.12	-1.10	0.70	-1.10	-0.75	1.46	-1.18	1.40	0.24	-1.06
16	-0.55	-0.34	1.43	-0.99	-1.52	0.70	-0.44	0.41	1.51	-0.09
17	-0.35	2.44	-1.53	-1.13	-1.23	1.80	0.20	0.14	-1.30	1.55
18	-1.98	0.80	-1.14	-0.24	0.23	-0.78	-0.29	0.44	0.72	-0.67
19	0.97	0.83	-0.25	-1.38	-0.71	0.06	-0.23	1.40	0.23	0.79
20	-0.82	-0.28	0.29	1.41	-0.81	0.29	-0.20	-0.08	0.40	0.39
21	0.58	-1.68	0.11	0.78	-1.50	0.40	-0.16	1.05	-0.52	0.64
22	-0.70	0.93	-0.47	1.65	1.23	1.08	1.74	-3.15	-0.33	-1.57
23	-0.35	-0.47	-2.24	0.49	-1.22	1.30	1.02	2.26	-0.23	-1.06
24	-1.50	-1.50	-3.30	-0.50	1.47	-0.43	2.56	-2.07	-1.06	0.21
25	-0.67	0.79	-0.82	0.44	-0.08	-3.27	-1.13	0.42	-0.33	0.83
26	-1.80	-2.02	-1.07	-0.93	-0.58	0.99	-0.11	-1.26	-1.10	1.27
27	-0.06	1.30	0.89	0.41	1.41	-1.77	1.16	-0.39	0.81	0.35
28	0.05	-0.12	0.98	-0.09	1.26	0.70	2.38	-1.79	0.98	2.08
29	-0.29	-1.71	1.05	0.76	0.62	-0.08	-0.27	-0.55	-1.84	-1.05
30	-1.27	-1.02	-0.32	-0.30	-0.31	-0.11	-0.37	-0.10	-1.03	-1.14
31	-0.08	1.03	-0.58	0.36	-0.56	0.71	-0.14	0.48	-0.52	0.57
32	-0.17	0.82	-0.14	0.57	-0.52	-1.01	0.42	0.66	1.29	0.26
33	0.23	0.89	0.37	1.71	2.36	-1.20	-0.12	-1.79	1.71	-0.08
34	-0.29	0.64	0.95	2.09	-0.54	0.74	0.03	-0.50	-0.44	0.97
35	0.26	0.80	-0.43	0.51	1.08	-0.18	0.65	-1.69	2.07	-0.09
36	-0.06	-0.27	-0.30	2.17	0.17	-1.81	1.13	-1.60	-0.86	-1.05
37	-0.44	1.92	0.14	0.74	-0.36	-0.15	-1.48	-1.80	-2.07	-1.48
38	-0.74	0.55	-0.40	-0.11	0.42	1.15	-0.69	-0.20	-1.29	1.03
39	-2.53	-0.94	0.65	-1.06	0.08	0.69	0.04	-0.59	-1.94	-0.57
40	-0.23	-0.21	-0.41	-1.44	1.60	0.37	-0.13	0.10	-0.19	-0.03
41	0.02	0.41	1.39	-0.13	0.49	-0.60	0.55	0.85	-0.55	0.23
42	0.45	-1.12	2.50	-1.28	-1.75	-0.14	-1.21	-1.45	1.09	1.04
43	1.25	-0.28	-0.53	-0.51	0.07	-1.47	0.09	0.36	0.65	1.34
44	-0.58	-1.55	0.20	-0.82	0.20	-1.06	0.92	1.44	0.17	0.36
45	1.13	-0.55	0.13	-0.08	0.50	-1.70	2.08	-1.10	-0.71	0.10
46	-0.61	0.64	1.68	-0.07	0.01	-0.24	-1.82	0.91	-1.45	-1.06
47	-0.58	-1.38	0.26	-0.18	2.84	-0.64	-0.09	-1.64	0.60	1.04
48	-0.64	0.40	0.25	1.04	2.01	-0.59	0.40	-0.14	0.41	3.20
49	-0.29	-0.46	-0.62	0.77	-0.12	-0.17	0.83	0.92	0.37	0.34
50	0.06	-0.99	-0.13	0.04	-1.63	-0.48	0.30	-0.58	1.06	0.15

$\Sigma(x)$  -12.74    0.97    -2.01    5.43    12.90    -3.30    7.60    -7.97    -5.40    8.23  
 $\Sigma(x^2)$  40.7496    57.9339    55.4039    41.0223    63.1188    49.1754    48.1654    59.4481    47.9482    52.7185

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.76	0.21	-0.83	0.10	-2.07	0.83	-0.96	1.53	0.45	0.88
2	-0.97	0.08	-0.44	-0.08	-0.52	-0.09	-0.81	0.98	1.17	-0.50
3	-0.20	-1.40	-2.27	-1.68	0.56	-0.28	1.67	0.80	1.26	0.52
4	0.50	0.56	-0.52	-1.80	1.57	1.63	-0.18	0.31	-0.51	0.56
5	2.09	-0.16	-0.58	-0.05	1.03	0.75	-0.53	-0.67	-0.42	0.27
6	0.06	1.07	-0.71	-0.32	-2.07	0.37	0.23	0.74	0.10	0.08
7	-0.53	-1.23	-0.61	0.74	-0.29	-1.14	0.56	0.34	-0.60	1.73
8	-0.91	0.84	-0.74	1.29	-1.21	0.68	2.09	1.73	0.51	-0.62
9	-0.56	0.58	0.55	0.70	-0.62	0.70	0.41	-0.74	0.78	0.23
10	-0.89	0.12	0.35	-1.08	0.81	-0.21	1.69	-0.39	0.75	-1.30
11	0.69	0.95	0.52	0.47	0.25	0.82	-0.48	0.61	1.23	0.38
12	0.34	-1.17	-0.99	1.87	-1.00	-0.01	1.09	-1.00	-2.08	1.58
13	0.61	1.20	0.39	2.42	1.10	0.52	1.51	-0.50	-0.21	-0.78
14	1.03	-0.36	-0.45	0.15	-1.07	0.50	-1.65	1.10	-0.57	-0.08
15	-0.18	0.10	-0.39	-0.04	0.10	0.31	0.72	0.23	-0.84	-0.35
16	0.62	0.05	0.43	-0.62	-0.70	-1.10	-0.10	-1.44	0.81	-0.02
17	0.42	-0.42	0.81	0.22	1.82	1.69	0.15	-0.07	1.55	-0.34
18	-0.65	0.60	-1.33	0.79	-0.08	0.37	-0.14	-1.37	0.27	0.22
19	-1.23	0.47	0.64	-0.54	-0.17	-1.76	0.54	-0.97	1.05	2.59
20	0.30	-0.39	-1.25	1.11	0.75	1.28	0.73	-0.21	-0.07	-1.07
21	-1.14	-0.12	-0.42	0.20	-0.47	-2.20	0.93	0.71	1.06	0.52
22	0.54	1.04	1.90	0.27	-1.34	1.09	-1.64	0.02	-0.37	0.64
23	-0.18	-0.06	-0.02	0.50	-0.40	-0.98	2.34	-0.46	0.64	-1.39
24	1.69	-1.91	-1.28	-1.75	-0.19	-1.07	-0.99	-0.53	0.75	-0.97
25	-1.04	-0.50	-0.22	-1.43	-1.65	-0.50	0.26	-0.17	1.28	0.98
26	-0.54	0.24	0.12	-0.50	0.05	-0.23	1.41	1.03	0.12	-1.47
27	0.68	0.31	0.95	-0.28	-1.37	1.38	1.20	0.76	-0.39	-0.61
28	-2.07	0.53	1.63	-1.84	1.15	0.75	-0.41	0.08	0.31	0.29
29	-1.10	1.02	0.25	1.83	2.48	-0.44	0.12	-0.65	-1.98	-2.31
30	0.72	0.72	-2.11	0.55	0.23	0.24	1.25	0.37	1.41	1.29
31	0.32	1.55	0.70	-1.05	0.98	-0.13	-0.96	-0.11	0.66	-1.16
32	-0.44	-0.53	-0.41	1.18	-0.19	1.41	-0.25	0.47	-1.07	-1.40
33	-0.48	-0.21	-1.43	-0.45	-1.45	-0.81	1.30	0.31	-0.02	-0.11
34	-0.33	-0.18	-1.05	0.26	-0.32	0.08	0.96	0.92	-0.66	1.06
35	0.08	0.17	-1.68	0.20	-0.86	0.61	-0.80	2.70	-0.53	0.49
36	0.80	0.90	0.01	0.60	0.59	1.12	1.75	-0.37	-1.88	-0.47
37	-0.69	-1.49	-0.12	-0.27	0.14	0.82	0.26	1.57	-0.32	0.94
38	0.60	0.46	0.27	1.73	-0.11	0.15	-0.99	1.42	0.09	-0.18
39	1.64	-1.65	0.33	0.97	-1.74	-0.88	1.05	0.46	-0.07	0.83
40	-1.32	-1.25	-1.41	-1.96	-1.72	0.21	0.38	0.40	-0.24	1.44
41	0.40	1.28	0.77	-0.73	-0.44	1.33	-0.53	1.12	0.35	-1.51
42	1.68	0.87	0.14	1.00	-0.84	-0.61	-0.84	-0.13	-1.07	0.46
43	-0.20	-0.18	-1.09	0.31	1.13	0.25	-0.89	-1.00	-0.11	0.95
44	0.36	-0.74	0.59	-0.73	0.05	-0.06	1.00	-0.24	0.56	-0.45
45	0.14	-1.05	-1.48	0.29	0.52	0.19	-1.16	-0.71	-1.30	1.77
46	0.92	1.43	-0.94	1.33	0.32	-0.72	0.32	-0.01	-0.51	0.10
47	-0.90	-2.33	0.26	-0.30	0.22	0.26	-0.24	0.31	0.06	0.92
48	-0.45	0.50	1.12	0.33	2.31	-2.28	0.74	1.27	-1.74	-0.83
49	0.59	-1.31	-2.11	-2.01	0.35	0.91	1.29	-1.62	-2.41	-0.85
50	1.78	0.41	-1.25	-0.98	1.83	0.24	0.11	0.13	0.37	-0.33

$\Sigma(x)$	3.36	0.52	-15.40	0.92	-2.55	5.99	13.51	9.06	-2.38	2.62
$\Sigma(x^2)$	40.4636	42.7732	49.7638	55.2940	59.1503	42.5309	51.6065	40.5364	45.1156	50.0212

## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.49	-1.97	0.63	-0.16	-0.29	-0.14	0.15	1.00	2.33	0.01
2	0.82	-2.20	-0.34	0.91	2.60	0.93	-0.40	1.14	-0.01	1.84
3	-0.05	0.59	0.99	0.12	0.66	-1.00	0.08	-1.19	1.37	-1.02
4	-1.13	0.12	-0.09	-1.78	-0.02	-0.32	-2.91	-0.62	0.95	1.06
5	-0.18	-0.62	-0.43	0.17	-0.55	2.35	-1.22	0.96	1.32	1.14
6	0.32	-0.38	-0.92	1.67	-0.29	-2.46	-0.36	-1.17	0.27	1.97
7	-0.52	0.13	-0.86	0.60	1.02	-0.65	-0.38	0.82	0.85	0.43
8	1.88	-1.28	-0.85	-0.06	0.18	0.75	0.48	-0.75	0.62	0.61
9	-1.57	0.96	-1.36	1.15	0.64	2.07	2.79	-0.39	0.06	-1.27
10	0.48	-0.60	-1.64	0.35	-0.72	-0.99	0.94	1.23	-0.09	-0.98
11	0.80	0.12	0.35	-1.85	-0.14	0.12	-1.18	-0.27	-0.28	-0.90
12	0.32	-1.81	-1.31	0.41	0.88	-0.44	0.43	-0.74	-0.37	1.88
13	-0.72	2.47	0.79	0.65	2.05	0.44	-1.54	-0.24	2.86	0.06
14	-0.02	-2.23	-1.17	0.55	-0.03	0.38	-1.53	-1.00	-0.87	0.30
15	1.08	-0.67	-1.77	-0.33	0.76	-0.46	-0.49	1.44	0.19	-0.40
16	-0.80	1.50	-0.94	0.28	1.99	-0.63	0.51	-0.06	1.14	-1.74
17	0.50	0.49	-0.29	1.21	1.24	2.04	0.72	-0.30	-1.13	-0.10
18	0.12	-0.15	-0.06	-1.26	-0.00	-0.38	1.41	-1.30	0.80	-1.06
19	0.65	-1.09	-0.55	0.38	-0.31	-0.91	-0.31	-1.90	0.63	-0.61
20	-0.58	-0.56	-0.57	0.15	-0.92	-1.45	-0.67	-0.08	-0.03	1.12
21	-0.61	-0.76	-0.36	0.67	-0.22	-0.63	0.21	-0.48	-0.88	-0.31
22	-0.38	0.26	0.44	1.21	0.25	1.48	0.09	1.20	0.21	0.65
23	0.23	0.85	0.37	0.98	-1.66	-0.85	-0.19	1.03	0.19	-0.78
24	-0.04	-0.02	0.45	-1.11	-0.23	0.83	1.33	0.04	0.31	0.48
25	-1.34	-0.30	-0.10	0.93	0.07	0.07	1.66	0.60	0.41	-0.57
26	0.54	1.59	0.36	2.44	-0.77	0.54	1.14	-1.84	-0.50	1.77
27	1.02	-1.18	0.10	2.13	-1.16	-0.12	-0.11	-0.25	0.07	0.23
28	0.32	-0.30	-0.60	-0.10	1.91	-0.15	-1.29	0.69	-0.44	0.91
29	-0.79	-1.14	0.02	-1.23	0.68	-1.57	-0.18	1.03	-2.04	-0.24
30	0.64	-0.23	2.23	-0.34	1.04	0.67	2.57	1.60	-0.97	-0.73
31	0.83	0.85	0.20	-1.37	0.80	-2.55	-0.52	1.40	-1.69	-1.29
32	0.19	-0.36	1.19	1.37	-0.14	0.06	-0.35	-0.50	-1.56	-0.10
33	-0.62	0.04	1.51	1.68	-1.00	0.07	2.61	0.98	0.17	-0.71
34	1.03	0.07	0.01	-0.03	0.07	0.51	1.15	0.52	-1.04	1.01
35	-0.34	0.61	1.15	-1.26	0.90	-0.34	-0.05	0.99	-0.55	-1.86
36	-0.36	0.00	-0.76	-0.03	-1.06	-0.24	-1.49	-0.59	1.15	-0.34
37	0.53	0.68	-0.15	-0.16	2.74	0.43	-1.10	-0.51	-0.26	0.72
38	-1.20	-0.93	-0.92	-0.54	-1.78	0.59	-1.09	-1.03	-0.08	-0.48
39	-1.37	-1.41	0.39	0.44	1.27	1.33	-0.53	-1.80	1.31	0.37
40	1.30	0.52	-0.92	-0.69	-0.64	1.03	-1.46	-0.13	0.62	-0.92
41	-0.83	-0.65	-2.11	-1.00	-0.43	-0.22	-0.30	-1.01	0.56	-0.39
42	1.11	0.64	-0.58	-0.71	-0.10	-0.49	-0.61	-2.19	0.35	0.92
43	0.03	0.24	0.86	0.93	-0.16	-0.41	0.98	1.92	0.27	-1.20
44	0.47	-0.71	0.94	0.76	0.48	1.94	0.42	-1.12	0.20	-0.05
45	-1.32	3.66	-0.82	3.03	0.81	-2.06	-0.47	-0.38	-0.96	-0.69
46	1.50	-0.68	-0.45	-0.19	0.05	-0.42	-0.38	0.68	-1.22	0.55
47	-0.39	-1.14	1.39	1.11	-0.91	-0.07	-0.89	0.72	0.07	0.16
48	-0.28	-1.55	1.10	-0.08	-1.39	-1.89	-0.21	-0.51	-1.74	0.55
49	2.05	-1.68	0.37	-0.12	0.61	0.77	-0.15	-1.54	-0.23	0.23
50	-1.11	1.99	-0.71	-1.18	1.52	-2.00	0.92	-0.91	-1.18	0.71

$\Sigma(x)$  1.72 -8.22 -5.79 10.70 10.30 -4.44 -1.77 -4.81 1.16 0.94  
 $\Sigma(x^2)$  37.2560 68.7506 41.8155 57.4452 54.5864 62.5652 62.6149 53.7691 48.2508 43.1432

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.63	-0.23	0.55	1.08	-1.68	-1.33	0.64	-1.25	0.82	1.40
2	1.15	2.60	1.18	-1.18	-1.99	0.91	-0.42	-0.24	-0.14	-0.01
3	-1.15	1.92	0.87	-0.79	0.25	-1.54	-1.78	-0.66	1.18	0.60
4	-0.08	0.16	1.88	-0.15	0.45	-1.30	0.13	0.38	0.28	1.37
5	-1.13	-0.28	0.20	0.00	-0.85	0.19	0.08	1.02	0.86	-0.39
6	0.43	0.78	-0.32	-1.86	-0.93	-0.42	0.84	0.10	0.66	-1.59
7	1.03	-0.72	-1.35	-0.66	-0.67	-0.81	-0.74	0.53	0.71	0.88
8	0.29	-0.12	0.41	-0.53	0.11	1.10	0.92	0.99	-1.63	0.47
9	1.08	-0.04	-0.08	0.72	0.86	0.64	0.19	1.06	-1.54	0.35
10	0.35	-0.07	-0.71	-1.41	-0.73	2.90	0.62	0.64	0.39	-1.47
11	-0.92	1.27	1.74	1.14	1.15	-0.07	-0.10	-2.18	-0.16	0.15
12	-1.28	0.19	-0.44	0.36	1.02	0.95	0.20	-0.91	0.51	-1.10
13	-1.34	0.92	1.19	0.22	-0.60	1.57	-1.51	-1.31	0.23	0.56
14	0.23	-1.30	-0.92	0.62	1.26	0.37	-0.93	0.69	-0.72	-0.57
15	-0.54	0.18	-0.33	-0.78	-0.58	-0.55	0.28	0.35	-0.35	-1.07
16	-0.56	-0.65	0.94	-1.40	0.50	0.26	0.82	-0.22	-1.83	-0.45
17	-1.46	1.65	-0.71	-1.65	0.93	-0.58	-1.50	0.73	-0.87	-0.07
18	0.90	-0.57	-0.76	-0.68	1.49	-0.93	-0.44	-0.20	-1.10	0.20
19	-0.36	1.26	-0.25	1.28	0.73	-0.54	0.23	-1.26	0.41	0.03
20	0.36	-0.97	-1.04	-0.92	0.08	0.23	-1.62	1.20	-1.12	0.20
21	-0.20	1.13	1.15	-0.94	1.61	0.66	1.62	2.40	1.43	1.46
22	-0.87	0.26	-0.31	0.63	0.35	0.60	1.03	0.93	-0.28	-0.35
23	-0.55	0.37	-0.08	1.87	1.22	-2.80	-0.89	-1.15	-0.60	-0.13
24	-0.57	-1.41	1.46	-1.79	1.08	-0.60	-1.15	-0.19	1.27	-0.66
25	-1.63	0.28	0.13	-0.12	1.05	0.41	-0.51	0.64	1.09	1.77
26	0.66	-0.22	1.00	1.33	1.45	-0.87	-0.81	0.62	-0.07	-0.64
27	-1.98	0.51	0.20	-1.44	-0.16	1.67	-0.32	-1.04	0.38	0.95
28	1.11	-0.36	-0.45	-1.31	-1.30	1.37	-0.72	0.16	-0.07	-0.39
29	-1.47	-1.17	-0.03	1.39	-1.12	0.69	-0.49	0.62	0.12	1.22
30	-1.78	1.75	-1.15	-0.88	2.43	2.11	-0.12	1.40	0.49	0.49
31	-0.13	1.27	0.25	1.67	2.23	0.89	1.02	0.27	0.78	-0.74
32	1.22	-0.18	0.06	-0.77	1.41	0.11	0.10	0.31	1.29	-1.18
33	0.66	1.38	-0.22	-0.92	-0.77	0.06	-0.50	0.01	-1.51	-0.03
34	-0.25	-0.47	0.24	-0.94	1.82	-0.33	0.39	-0.59	-0.18	-0.60
35	0.37	-2.07	-0.94	2.34	-0.10	-1.47	2.13	-0.03	-0.04	-1.75
36	-0.39	-0.38	-1.03	0.01	-2.15	-0.24	-0.74	1.07	-0.24	-0.38
37	0.97	-0.71	0.78	-1.45	-1.09	-0.90	1.42	0.18	0.74	-1.20
38	-0.34	-0.91	0.11	-0.73	0.50	0.12	-0.22	-0.55	0.85	-0.86
39	-0.17	0.68	-0.65	0.68	0.66	0.82	-1.82	1.94	0.58	0.52
40	0.75	-0.88	-0.24	-1.66	0.24	0.22	-0.23	1.78	1.61	-0.72
41	0.55	-0.10	-0.86	-0.34	-1.10	-1.24	-0.79	0.28	-1.10	-0.51
42	0.75	0.19	0.54	-1.46	0.77	-2.41	-0.61	-0.82	-1.93	-0.16
43	0.74	0.74	-0.39	1.00	-0.44	0.48	-1.05	-0.49	0.08	0.68
44	1.45	0.06	1.27	-0.67	-1.72	1.46	0.83	-0.17	-1.04	-0.44
45	1.14	1.17	-0.87	-1.06	0.01	-0.95	-0.74	-0.81	-0.23	1.16
46	-1.84	1.34	0.09	0.22	-1.47	-1.19	0.75	1.70	1.22	0.82
47	-1.36	0.26	-1.00	-0.96	-0.21	-1.14	1.27	-0.66	-0.30	0.81
48	-0.29	0.62	0.43	0.69	0.77	0.19	1.00	-0.11	-0.67	-0.87
49	-0.62	1.96	-1.03	-1.38	0.96	-0.60	0.72	-1.39	0.77	-0.19
50	0.29	-0.39	-1.62	0.10	-0.87	-1.39	-0.34	-1.61	0.60	0.80

$\Sigma(x)$  -6.15 10.70 -1.11 -13.4 6.86 -3.22 -3.86 4.16 1.63 -1.63  
 $\Sigma(x^2)$  44.6247 49.3610 35.1197 60.8702 63.2004 62.8310 42.0676 48.2856 40.3323 36.0173



## Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.26	1.18	-0.83	-1.22	-1.65	-0.83	1.44	0.63	0.77	1.38
2	0.72	-0.36	0.10	0.19	1.82	-0.56	1.08	-0.19	-0.10	1.58
3	0.11	0.91	1.91	3.59	-2.03	1.73	1.30	-0.86	-0.89	-1.67
4	0.46	0.20	0.06	1.45	0.23	1.34	-2.36	0.89	0.87	-0.55
5	-0.69	0.38	-0.79	-0.34	0.07	-0.62	1.05	-1.09	-1.27	-0.59
6	-1.09	1.84	1.06	0.05	0.24	0.41	-1.50	0.14	1.59	-0.07
7	-0.46	0.40	-0.39	-0.73	-0.63	-0.20	0.21	-1.63	-2.07	-1.46
8	1.51	0.52	-0.44	-0.75	2.29	-0.22	0.06	-1.31	0.12	0.16
9	-1.14	-0.59	1.47	-1.50	-0.82	-1.08	0.98	1.62	-0.31	-1.38
10	-0.73	1.49	-0.27	-0.37	0.55	-0.18	0.89	2.68	-0.39	-1.82
11	-0.16	0.10	-0.19	1.04	0.94	-0.75	-1.51	-0.36	0.32	-0.89
12	0.41	-0.90	0.70	-2.28	1.13	1.06	-0.59	0.35	-0.46	-0.43
13	1.82	-2.25	1.49	-1.24	-1.06	-0.03	0.34	-0.41	-0.57	-0.55
14	-1.12	-0.03	1.16	-0.86	0.34	-0.97	-0.05	0.37	0.78	0.06
15	-0.20	-0.21	1.62	0.81	1.56	-1.25	-1.19	-0.00	0.16	-0.02
16	0.01	-0.74	2.07	-0.26	0.45	-1.12	-1.81	-1.13	0.47	-0.28
17	-0.18	-1.34	0.70	0.83	1.45	-0.88	0.03	2.79	0.99	1.18
18	-1.06	-0.77	1.62	0.31	-1.07	0.71	0.89	0.09	-1.65	-0.51
19	-1.05	0.33	-1.38	1.46	-0.67	-0.44	0.49	-0.05	-1.02	-2.05
20	-0.96	-1.11	0.11	-0.05	0.47	1.57	0.86	0.87	0.22	-0.92
21	0.88	-1.01	-0.75	1.16	-0.41	0.72	-0.54	-0.82	1.48	0.17
22	-0.72	-0.85	-0.80	-0.74	1.39	0.79	0.57	0.14	-1.57	-0.02
23	-0.17	1.47	1.12	-2.06	-0.75	0.33	0.62	0.34	-0.06	-1.85
24	-0.24	-1.46	-1.05	-0.71	0.50	-1.68	-2.74	0.95	0.35	0.59
25	-0.68	-1.37	-0.80	-0.74	-0.29	-0.70	0.97	-0.24	0.53	-1.68
26	-0.45	0.66	-0.86	0.75	-1.55	-0.99	-0.02	-0.61	-1.74	-1.72
27	-2.29	0.12	-0.22	0.25	-0.13	-1.25	-1.52	-0.81	-0.45	0.55
28	0.61	-1.76	-0.31	2.51	1.14	0.90	-0.78	1.32	-0.70	-1.25
29	1.82	-0.20	0.10	0.01	-0.84	-0.37	1.57	-1.01	-0.92	-0.14
30	1.10	0.65	0.56	0.84	-0.25	0.99	0.90	-1.78	0.54	1.01
31	-0.03	1.00	2.34	1.54	-0.52	0.84	-0.52	0.25	-0.18	0.27
32	0.03	0.25	0.61	-0.69	-0.99	0.32	1.35	0.08	-0.82	1.43
33	0.10	-0.81	-0.45	-0.16	-0.15	-0.29	1.89	2.52	-0.89	-0.47
34	0.55	-0.87	-0.46	1.03	0.28	1.66	0.12	0.53	-0.32	3.35
35	-0.18	-1.43	0.81	-0.79	0.28	-1.39	-0.83	-0.37	0.03	-0.09
36	-0.68	0.01	0.75	-0.66	-0.51	-1.09	0.31	0.08	-0.21	0.77
37	0.60	-0.53	-0.06	-0.52	-0.87	-1.20	1.51	-1.72	0.55	0.08
38	0.54	0.80	-0.89	-1.04	-0.20	0.11	-0.60	0.37	1.26	-1.51
39	-1.11	0.96	-0.26	-0.20	0.05	-1.13	0.23	-0.70	0.96	-0.12
40	-0.43	-0.61	1.83	-1.31	1.18	-0.39	0.50	-1.25	-0.45	-0.86
41	0.09	1.29	0.69	0.97	-0.20	0.43	-1.69	0.81	-0.04	1.13
42	-0.04	0.15	0.02	-0.13	0.27	-0.08	-0.96	0.61	1.60	-0.54
43	0.73	0.38	-0.04	-1.41	-1.65	1.40	-0.70	0.37	-0.82	0.74
44	0.86	-1.16	-0.74	-0.66	-0.75	2.18	0.24	1.29	1.41	0.48
45	0.06	0.30	-0.20	-1.11	0.80	2.87	0.24	-1.42	-0.65	-1.30
46	-0.05	0.67	-0.22	0.98	0.92	-0.29	-1.23	-1.14	-1.23	1.57
47	-1.40	1.37	-2.26	-0.68	0.45	0.42	0.21	0.87	1.06	-1.88
48	2.00	-0.60	-0.07	0.49	-0.98	-1.92	0.97	-1.23	0.60	0.10
49	1.19	-1.38	-0.81	0.99	0.83	-0.99	-1.08	-1.82	-1.02	0.45
50	-0.15	-2.06	0.41	0.86	0.58	-0.60	0.58	-1.12	-1.16	0.10

$\Sigma(x)$  0.00 +9.97 7.77 -1.10 1.24 -2.71 0.18 -2.11 -5.30 -9.47  
 $\Sigma(x^2)$  40.046 49.8809 48.8603 63.2330 45.2782 56.1225 58.2980 61.4377 42.7316 63.2289

First Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	0.57	0.81	1.11	-1.10	0.33	-1.01	1.20	0.64	1.46	1.02
2	-1.15	0.62	-0.26	-0.81	0.22	0.59	-0.06	-1.30	0.34	-0.47
3	0.61	-0.35	-1.79	-0.12	-0.16	0.11	-0.33	-0.39	-1.85	-0.33
4	-0.18	-0.40	0.21	-1.59	-0.13	-0.61	0.26	-0.05	0.46	-0.29
5	1.56	-0.02	-0.81	-0.34	0.55	0.12	-0.13	-1.57	1.38	-0.52
6	0.07	-0.18	0.10	0.06	0.94	-0.38	0.68	0.52	-1.30	-0.31
7	1.38	-0.16	-0.77	-0.61	0.22	0.94	-0.96	-0.25	-0.21	1.10
8	-0.13	0.95	0.41	-0.10	-0.07	-1.47	1.32	0.45	-0.01	-0.67
9	-0.49	0.10	-0.14	-1.15	-1.35	1.33	-0.59	1.27	0.55	0.05
10	1.01	-0.99	0.79	0.91	-0.18	1.36	-0.27	0.77	1.16	-0.04
11	0.40	1.74	-0.09	0.89	0.59	-0.52	0.24	0.23	-0.60	-0.59
12	2.00	-0.82	0.30	-0.01	0.43	-0.82	-0.84	-1.09	0.06	-0.75
13	-0.92	1.21	0.82	-0.00	-0.59	-1.14	0.83	0.58	-0.53	-0.84
14	0.63	0.24	-0.75	-1.31	-0.72	-1.14	-1.17	-0.11	0.38	0.37
15	0.58	-0.50	0.59	1.66	0.61	-0.49	1.53	1.03	0.64	-1.24
16	-0.19	-0.34	0.95	0.32	0.98	1.39	1.55	1.48	1.01	-1.11
17	0.60	-0.40	-0.44	0.91	0.27	0.58	-1.56	-0.32	-1.19	1.50
18	-0.37	-1.49	0.35	0.27	0.63	1.63	0.39	-1.23	-0.09	0.48
19	0.64	-1.54	-0.78	-0.76	-0.04	-1.29	0.45	2.40	-0.48	-1.00
20	1.07	0.95	1.15	0.24	1.31	-0.20	1.18	0.49	-0.02	-1.43
21	-0.82	-2.20	-0.80	0.72	-2.08	-1.84	-0.22	0.75	-0.28	0.95
22	-1.61	-0.99	0.53	1.13	1.72	0.59	2.29	0.06	0.71	1.05
23	-0.77	1.10	-0.01	1.96	-0.60	-0.87	1.01	-0.24	-0.29	-2.60
24	-0.93	0.76	-0.24	-0.70	1.69	0.12	-0.73	0.65	0.66	2.06
25	-0.77	0.73	0.84	0.20	-0.22	-1.29	-0.72	-0.23	-1.78	1.27
26	-0.86	0.13	-1.53	-0.13	-0.45	0.79	0.45	-0.05	-0.35	0.11
27	0.85	-0.94	-0.51	-1.81	0.53	-0.29	1.70	2.62	1.15	-1.64
28	2.57	-1.38	-0.13	0.33	1.05	-1.06	-1.04	-0.17	-1.63	-2.29
29	-2.15	-1.34	0.40	0.37	-0.44	-0.60	1.27	0.19	-0.28	1.02
30	1.25	0.67	1.12	0.36	1.70	-1.11	-0.70	0.27	0.90	0.08
31	-1.04	0.27	-0.23	-0.40	1.21	0.98	0.89	1.52	-0.19	0.36
32	-1.50	0.44	-1.62	-0.81	-0.87	0.84	-0.22	1.22	-1.00	1.87
33	-1.16	-2.14	0.23	0.03	2.33	0.79	0.40	-0.17	-0.02	0.18
34	-0.99	0.66	0.93	0.94	-0.29	-0.70	0.91	0.87	-0.10	0.78
35	0.98	-0.22	0.77	1.23	0.87	-0.08	-0.22	-0.94	-0.57	-0.45
36	0.42	1.29	-0.24	0.41	0.43	0.06	-0.25	-1.64	-1.69	-2.15
37	-0.08	0.94	-2.23	-0.30	-1.22	-0.91	-0.53	-0.38	0.81	-1.07
38	-0.05	-1.00	-1.09	-0.32	-0.56	-0.11	1.25	0.87	-0.72	0.06
39	1.29	-2.42	-0.54	0.62	0.51	-1.61	0.04	0.52	0.96	-0.11
40	0.10	0.43	0.16	-1.60	0.58	-0.22	1.01	-0.27	-0.59	1.33
41	0.62	0.15	-0.86	1.54	1.47	-0.90	1.18	0.99	0.33	0.01
42	0.70	0.62	1.26	-0.19	1.62	2.07	-0.51	0.96	0.27	-0.63
43	-0.31	0.30	-0.52	-1.27	1.20	-1.82	-0.80	0.82	-0.81	0.32
44	0.00	-0.03	0.73	1.86	-0.99	-1.34	-1.07	-1.00	-0.01	1.73
45	-1.41	2.19	-1.52	0.19	-0.25	1.36	0.32	-0.62	1.45	-1.04
46	-0.70	-1.23	0.80	1.42	0.24	-0.61	0.82	3.37	1.41	0.34
47	-0.35	-1.03	1.82	0.20	1.01	-0.62	-1.02	0.45	0.77	0.21
48	-0.94	-0.12	1.58	0.03	-1.79	-0.13	1.01	0.91	3.17	0.46
49	-0.66	1.32	-1.04	1.36	-0.04	1.26	0.53	0.14	1.09	0.21
50	-1.59	0.64	2.70	-0.14	-0.26	0.21	0.09	-0.20	1.01	-1.39

$\Sigma(x)$	-2.22	-2.97	1.71	4.59	7.44	-8.06	10.86	14.82	5.54	-4.04
$\Sigma(x^2)$	50.9618	52.6587	48.1509	41.7595	46.1256	49.3072	41.9366	53.8284	48.7528	56.0892

## Second Five Hundred \*

	1	2	3	4	5	6	7	8	9	10
1	1.42	1.76	0.90	-1.20	1.34	-0.40	-0.43	0.82	0.17	-1.36
2	0.49	-0.22	-0.42	0.10	-0.58	0.42	0.52	-0.68	-2.04	-0.16
3	-0.62	-0.04	-0.16	-0.35	-0.37	-1.01	-0.63	0.56	1.54	-2.44
4	-0.55	-1.99	-0.24	-1.03	1.10	-1.13	0.90	0.85	0.68	-1.56
5	-0.48	1.89	0.51	-0.22	1.37	2.37	-1.49	0.59	1.16	-0.04
6	0.77	-1.05	0.26	0.35	-0.87	-0.08	-1.31	0.82	0.26	-0.93
7	0.26	-0.41	0.41	-0.98	-0.17	0.03	0.31	0.18	0.49	0.49
8	0.97	-0.30	0.43	1.69	0.17	0.02	-0.90	-0.34	0.32	1.56
9	-0.22	0.10	-0.93	-0.08	-0.85	-0.03	-1.53	0.09	0.54	-1.66
10	-0.38	-0.59	-0.23	-0.23	-0.69	1.46	3.42	-0.10	0.27	0.37
11	-0.15	1.26	2.81	-0.20	1.05	-0.68	0.92	-0.69	0.88	-2.08
12	1.35	-0.44	-0.71	0.98	1.05	-0.39	-2.22	1.13	1.28	0.53
13	-0.09	-2.27	-0.23	-0.49	-0.07	0.16	1.63	1.43	0.19	1.14
14	-1.67	0.73	0.36	0.08	-2.18	-2.67	1.17	1.68	-0.79	0.13
15	-0.61	-0.57	-1.10	-0.01	-0.04	0.47	0.93	1.26	0.20	-0.35
16	0.41	-0.06	-0.37	-0.87	-1.14	-0.88	-0.17	-0.64	-1.15	-0.77
17	1.06	0.64	0.43	-0.81	0.05	-1.23	-0.23	-1.06	1.10	1.02
18	-0.88	0.36	-0.70	1.94	-0.87	-0.13	0.64	-1.12	0.08	1.22
19	-1.08	0.79	-0.21	-0.31	-0.68	0.62	1.10	-0.19	-0.49	0.53
20	0.13	0.53	-1.46	-1.82	-0.46	-0.40	0.06	-1.15	-0.50	-0.00
21	-0.37	-2.26	-1.20	-1.55	0.87	0.03	-1.23	-1.45	-0.22	-1.23
22	-0.12	0.76	-0.86	0.31	0.51	0.80	-0.45	-3.22	-0.87	-0.95
23	0.78	0.64	1.50	3.09	0.70	-0.30	0.00	-0.09	0.96	-0.02
24	-0.47	1.18	-1.63	0.61	-1.67	0.28	-0.79	-0.58	-1.38	0.71
25	-0.33	0.71	0.06	-0.78	-0.30	1.16	1.31	0.38	-2.39	0.81
26	-1.51	1.23	-1.60	-0.71	-1.21	0.50	0.59	-0.19	0.44	-0.04
27	-0.91	-1.22	0.09	0.64	-1.00	-0.30	-0.85	-0.85	-0.81	-1.04
28	-1.47	0.00	0.29	0.26	0.04	-0.90	1.69	-1.50	0.94	1.55
29	-2.43	1.37	0.37	-0.87	0.07	0.10	-1.02	0.48	-0.91	-2.93
30	-1.96	-0.25	-1.91	1.58	0.90	-0.47	1.52	-0.99	1.26	1.50
31	-0.41	-0.18	0.28	-0.44	-0.26	0.52	-1.04	0.03	0.50	-0.01
32	0.39	0.56	0.20	-1.61	-0.12	-0.67	1.28	-0.99	0.60	-0.57
33	-0.00	1.36	0.21	1.47	-0.08	-0.51	0.01	0.92	0.05	-1.40
34	1.09	0.23	-0.81	-0.65	0.12	0.69	0.09	0.95	1.96	1.36
35	1.76	0.04	-1.63	1.52	0.47	-0.11	-0.02	0.72	-1.91	1.52
36	-0.20	-0.64	-1.73	1.42	-0.28	1.19	-0.79	0.96	0.10	-0.74
37	-0.42	0.09	1.32	0.74	0.04	-1.68	0.06	-0.07	0.33	-0.89
38	0.33	0.30	-2.35	-1.02	-0.43	-1.26	0.50	0.37	-0.20	-0.01
39	1.19	0.16	0.13	0.43	-1.16	1.23	1.51	0.28	2.66	0.82
40	-0.93	-1.81	-1.13	-0.74	1.47	-0.43	0.58	0.82	0.52	0.16
41	0.83	0.07	0.22	1.10	-1.79	-1.62	-1.05	-0.39	-0.52	-0.48
42	0.89	-0.02	-0.21	0.90	-0.92	0.67	2.39	-0.95	-1.34	1.23
43	-2.27	-0.28	0.40	-0.95	0.79	-0.37	1.26	-0.08	0.77	-0.11
44	-1.92	0.03	0.22	-0.16	-1.00	2.08	0.30	-0.35	-0.19	-0.10
45	-0.66	-0.29	-1.25	1.03	1.60	-0.76	0.91	0.19	0.96	0.44
46	-0.31	0.68	0.78	-0.82	0.45	0.97	1.43	-1.40	1.43	-0.30
47	0.32	-1.43	-0.10	1.21	2.54	-1.09	0.41	-1.06	-1.19	0.85
48	-0.97	-1.04	-1.60	-1.49	-2.55	-1.58	-0.48	0.23	-1.00	-0.28
49	0.98	-1.36	-1.38	-0.76	-1.35	-0.96	-0.86	0.32	0.22	-1.38
50	-0.96	-0.26	1.29	-0.53	0.66	1.39	-0.40	2.00	0.09	-1.77

$\Sigma(x)$  -9.93 -4.25 -12.68 -0.23 -5.73 -4.88 9.55 -2.07 5.05 -7.66  
 $\Sigma(x^2)$  50.3261 46.3045 52.6130 55.0145 52.4769 49.3496 63.1315 46.4115 52.5203 60.4106

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.14	-0.99	-0.43	-1.39	0.41	0.40	-0.61	0.08	-0.03	-0.20
2	-1.75	-0.37	-1.20	0.93	0.92	-0.20	0.28	-0.38	-0.41	0.74
3	-1.50	-1.08	1.33	0.96	-1.16	0.05	0.58	1.72	1.35	1.56
4	0.13	0.78	0.24	0.84	-1.24	-2.08	-0.55	0.06	0.95	1.58
5	-1.63	-1.03	0.11	-0.33	-0.62	-0.66	0.58	0.52	0.50	-0.36
6	-0.72	-0.67	1.31	1.64	0.91	-0.23	0.67	-1.61	0.17	1.44
7	-0.69	-0.41	-0.26	0.34	-0.72	-0.96	1.26	-1.33	0.01	-0.11
8	-0.76	1.02	0.66	-1.05	-0.23	-0.11	0.37	0.80	0.66	-1.88
9	0.21	-0.18	0.57	1.27	0.42	-0.77	-0.38	-1.25	0.23	-2.15
10	0.61	-0.52	-0.67	-0.66	0.76	-0.82	0.82	-0.32	-1.44	0.54
11	0.33	0.71	1.59	-0.92	-0.57	0.01	-0.30	0.52	0.37	-0.65
12	-0.05	-0.60	-2.27	-0.36	0.10	0.26	-0.36	1.32	-0.96	2.83
13	-1.07	1.01	0.73	1.55	0.64	1.36	1.48	-0.23	0.03	-0.82
14	-1.27	1.16	0.21	1.06	-0.24	-0.53	-1.40	0.76	-0.56	0.17
15	-0.49	-0.37	-0.54	0.34	-1.63	0.75	-0.75	-0.31	-1.03	-1.50
16	0.73	-0.49	0.66	-1.20	-0.01	-0.40	-0.11	-0.77	-0.15	1.01
17	-0.64	-1.25	0.65	-1.13	0.61	-0.35	-0.94	0.76	1.01	1.80
18	0.58	1.17	-1.90	0.31	1.85	1.01	-0.13	0.15	1.46	0.26
19	0.60	1.35	-1.78	-1.32	0.86	0.42	-0.19	-0.88	1.24	-0.83
20	-0.91	-0.81	1.52	0.47	-0.17	0.41	-0.70	1.06	-0.62	-1.33
21	0.60	1.03	0.70	-0.03	-0.01	1.21	0.96	1.81	-0.87	-0.11
22	-0.66	-0.60	1.01	-0.94	0.40	1.46	1.71	0.17	0.71	-1.04
23	0.68	-0.25	0.76	1.93	-1.21	1.11	0.37	-1.98	-0.01	-2.59
24	0.28	0.07	-0.07	2.03	1.03	-0.49	0.30	-1.72	1.19	-2.46
25	-1.43	-0.67	-1.63	-1.23	-0.67	0.74	-1.91	0.36	0.99	-0.04
26	0.17	1.09	0.02	0.59	0.23	-0.16	-0.39	0.28	-2.27	0.66
27	-0.74	0.91	1.47	1.29	-0.38	-1.13	0.85	-0.06	1.80	-1.31
28	-0.46	1.03	0.45	0.23	-0.73	-1.01	1.41	-0.02	0.47	-1.13
29	0.88	1.02	0.11	-0.35	-1.94	-1.31	0.03	2.15	-0.58	-0.68
30	1.16	1.03	-0.63	1.20	0.08	0.70	1.33	-0.24	-1.66	1.15
31	0.60	-1.15	-1.11	0.38	0.88	0.39	-0.28	1.46	2.12	-0.49
32	-1.00	-0.85	-1.52	0.21	-1.69	-2.36	0.98	-0.67	-1.33	0.29
33	-0.35	1.60	1.27	-0.63	-1.03	1.32	0.17	0.53	0.31	-1.59
34	0.66	-1.02	-1.22	1.34	-1.17	-1.45	-1.04	0.09	0.58	0.65
35	-0.38	0.44	0.57	0.79	-0.12	2.16	-0.62	-1.71	-1.42	-0.40
36	-1.60	1.23	1.14	-0.50	-1.01	0.69	-0.51	0.42	-0.60	0.78
37	1.39	-0.54	-0.53	0.14	-0.84	-1.37	0.07	-0.53	1.39	0.12
38	0.06	-1.00	0.06	-0.36	-1.80	-0.57	0.50	-0.48	1.41	-2.46
39	-0.99	-0.42	-1.20	1.66	0.64	0.30	0.32	1.52	2.59	-0.14
40	0.38	-0.81	0.18	-0.62	-0.76	-2.99	1.01	1.20	2.64	1.68
41	-1.08	0.09	0.63	-1.34	0.03	0.35	3.47	2.03	-1.69	2.51
42	-0.84	0.68	-2.33	0.16	1.02	1.66	1.14	-0.49	0.59	-0.06
43	0.64	-0.17	0.15	1.02	0.37	0.11	0.29	0.15	0.22	-0.59
44	-0.02	1.17	-1.10	0.98	0.75	-1.20	-1.38	-0.30	-1.21	1.23
45	-0.36	0.48	-1.19	1.66	0.96	0.97	-1.24	-0.29	0.24	-0.28
46	0.31	-0.87	0.53	-1.34	1.05	-1.00	0.00	0.19	-0.48	0.20
47	0.12	0.03	0.65	-0.63	-0.90	-1.59	-0.40	-1.37	0.56	0.46
48	-0.27	1.01	2.60	0.30	-1.04	-0.22	-1.17	-0.92	-0.18	-0.74
49	-0.79	-0.36	0.91	1.59	0.06	-0.65	0.22	-1.85	0.42	0.13
50	-1.31	-0.25	-1.15	0.48	0.52	-0.39	0.75	-1.23	0.15	-1.10

$\Sigma(x)$  -11.50    2.38    0.06    11.36    -6.39    -7.16    6.56    -0.83    8.86    -5.25  
 $\Sigma(x^2)$  35.7578    35.5900    60.5890    51.9170    40.0499    57.1308    46.3180    53.4395    60.8480    76.6385

Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.59	-0.62	-1.29	1.10	-1.42	-0.06	0.76	0.74	0.80	-0.94
2	0.76	-2.15	0.38	-0.80	0.24	1.12	0.87	0.29	-1.30	2.00
3	-2.33	0.47	-1.80	-1.63	1.01	0.42	-0.34	-0.04	-0.71	-0.86
4	1.11	-0.39	-1.91	0.17	-0.39	-0.48	-1.39	-0.71	3.32	0.49
5	0.99	0.62	-0.07	-0.04	0.98	0.96	-0.58	-0.03	1.06	2.34
6	0.11	-0.07	-1.77	-0.97	-0.50	-0.93	0.54	-2.63	-0.82	-0.56
7	-1.34	0.16	-1.44	-0.00	1.17	-0.08	0.04	0.23	0.36	0.98
8	0.03	0.84	-0.99	-1.20	0.04	-0.09	0.56	1.06	2.36	0.45
9	-0.15	0.72	-0.02	-0.52	1.36	1.89	-0.94	-0.46	2.86	1.58
10	-0.01	-1.28	1.32	-0.30	-0.58	-0.53	0.69	0.98	1.66	-1.11
11	-0.91	1.77	0.80	0.71	-1.47	-1.65	2.13	-0.04	1.25	0.64
12	0.20	-1.88	-1.36	0.51	0.90	0.77	-0.07	1.36	0.76	1.18
13	-0.15	0.38	0.22	-0.56	0.88	-0.24	1.47	0.85	-1.19	-1.65
14	-2.25	0.19	-0.75	-0.06	-0.95	0.17	0.17	2.08	-2.24	1.05
15	0.66	0.57	-0.68	-1.66	-0.12	0.41	-1.52	0.63	-0.28	-1.73
16	-0.74	-0.66	1.01	1.03	1.44	-0.63	-1.69	-1.33	0.09	-0.69
17	1.80	-0.17	-0.96	-0.93	0.08	-0.58	-0.54	-2.22	-2.02	-0.76
18	0.19	0.77	-0.83	0.75	-1.01	-0.18	-1.04	-0.91	-1.24	-0.71
19	-1.31	1.41	-0.78	0.62	-1.34	-0.18	0.29	-0.00	-0.85	-3.20
20	1.42	-0.02	-1.04	-0.66	-0.62	0.43	0.34	0.32	0.79	-0.66
21	-0.82	-0.21	1.37	-1.89	-0.72	0.48	-0.89	-0.29	0.08	0.44
22	-2.56	-0.84	0.13	1.35	-0.41	0.91	-0.12	0.93	0.44	-0.58
23	-1.44	-0.21	-0.03	-0.37	2.06	-0.41	-0.12	1.71	1.40	-1.60
24	-0.45	0.21	1.47	-0.49	-1.11	0.11	0.26	1.56	1.34	1.13
25	-0.60	-0.17	-0.91	-0.35	-1.69	-1.29	0.47	0.17	0.86	0.27
26	0.47	0.58	0.50	0.08	0.13	-0.38	0.33	0.61	1.48	-1.32
27	-0.55	1.22	-1.08	0.80	-0.83	0.16	-1.10	0.22	1.65	-1.93
28	0.38	-1.00	-2.98	0.17	0.39	-0.07	-0.78	0.48	-1.33	-0.02
29	-0.37	0.18	-1.69	-1.63	0.48	0.70	2.41	-0.03	0.70	-0.75
30	0.10	1.42	-0.71	-1.39	0.51	-1.69	0.17	-0.19	-1.59	0.87
31	0.74	-1.21	1.01	-1.05	-0.15	2.64	2.66	-0.85	-2.01	0.48
32	0.31	0.71	-1.73	-0.87	1.39	0.39	-0.52	0.17	-0.94	-1.06
33	0.84	-1.23	0.45	-1.20	-0.31	0.31	0.46	-1.63	-0.63	-0.56
34	1.96	-0.65	-0.49	0.61	-0.22	1.48	-0.44	0.57	0.35	2.64
35	-0.82	1.85	1.99	-0.88	-1.49	-1.37	0.70	-1.50	0.15	-0.96
36	1.34	1.15	-0.03	1.11	-1.14	0.31	0.04	-0.37	-0.54	-2.16
37	0.26	0.53	1.17	-0.38	-1.35	0.87	0.57	0.95	-0.28	0.95
38	-0.68	0.70	-0.23	1.15	-1.74	-1.19	0.81	1.13	-0.70	-0.16
39	-0.25	1.24	0.33	-1.05	-1.54	0.17	0.76	-0.07	0.91	-1.05
40	0.74	0.65	-2.58	0.75	0.04	0.11	0.95	0.74	1.08	0.81
41	-0.63	1.22	-0.54	0.19	-0.96	-2.05	-0.67	0.33	-0.54	-1.88
42	0.84	-0.06	0.55	-1.21	0.76	1.96	1.81	1.01	-1.29	-0.85
43	1.87	1.13	0.31	-0.69	-0.45	3.33	2.56	-0.48	0.25	-0.19
44	1.82	1.29	0.81	1.01	-1.59	-0.49	0.02	-0.64	-0.32	1.34
45	-0.61	0.85	0.12	-1.08	-0.30	-0.06	-1.70	-2.04	-1.41	-1.10
46	2.11	-0.66	-1.04	1.22	-0.35	1.22	0.48	0.77	-0.14	0.82
47	0.96	0.75	1.72	0.91	1.19	-1.34	-0.20	-1.00	-0.79	0.64
48	-1.03	0.69	1.67	0.38	0.14	-0.01	1.18	-1.59	-3.13	0.50
49	0.09	1.67	0.61	-0.31	0.02	0.15	0.79	-0.29	-0.51	0.13
50	-1.07	0.93	0.40	-0.19	-1.21	0.20	0.89	0.11	-2.33	-1.24

$\Sigma(x)$  1.62 1.00 -7.79 -9.74 -10.75 5.69 11.53 0.66 -3.13 -8.55  
 $\Sigma(x^2)$  59.6902 46.3348 68.3805 41.1482 48.5067 54.6141 54.9817 51.3518 90.8653 75.7203

N.B. See warning as to use, on p. x.

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-1.12	2.05	-1.01	-1.34	-1.18	-0.05	-0.03	-0.21	-0.45	-1.56
2	-1.60	0.16	-0.31	-2.01	0.16	-0.30	-1.20	-2.37	0.86	-2.27
3	-0.27	-1.69	-1.22	0.45	-0.07	-2.49	0.92	0.89	-1.41	0.85
4	-0.64	-0.36	-0.48	0.71	0.66	1.87	-0.15	-0.30	1.21	1.38
5	1.58	0.95	1.13	-0.07	0.23	-0.08	0.79	0.07	0.61	0.54
6	0.66	-0.51	1.00	-0.90	0.45	1.08	0.55	1.01	-2.60	2.40
7	1.26	-0.73	1.78	-2.15	-0.27	0.21	0.20	-0.70	-1.41	-1.16
8	-1.28	-0.69	-0.25	2.51	0.08	0.53	0.59	-0.13	0.79	-0.81
9	0.32	0.11	0.51	0.32	2.05	0.56	0.90	-0.26	-0.99	-0.00
10	0.39	0.17	0.45	-0.62	1.80	-1.51	-0.66	-0.60	0.80	-0.85
11	-0.14	0.59	0.60	1.52	-1.29	0.50	1.39	1.04	-0.95	0.71
12	2.09	0.40	0.02	0.85	0.06	-1.23	-1.61	0.53	-0.35	0.63
13	-1.31	0.62	-0.95	1.24	1.89	-0.88	1.23	-0.88	-0.61	0.76
14	1.28	0.46	-0.62	-1.28	0.52	1.72	-0.62	0.20	0.56	0.32
15	-0.40	0.60	-0.63	0.44	0.19	1.79	-0.17	1.05	-0.94	0.32
16	1.84	-1.14	-1.26	-0.76	-0.15	-2.40	-1.30	-1.73	0.58	0.39
17	0.73	0.39	-0.20	-0.79	0.64	-0.16	-1.69	0.73	-0.53	0.75
18	2.22	-0.56	-0.36	0.09	-0.64	1.43	-1.11	-1.56	2.01	-0.96
19	0.68	-0.93	0.88	-0.64	1.45	-1.73	-0.88	0.86	-0.32	0.16
20	0.12	-0.72	-0.20	0.09	1.22	-1.35	-1.22	-0.58	-0.73	-0.10
21	-1.14	-2.31	0.44	0.15	0.64	0.49	0.23	-0.39	-0.44	-0.05
22	-0.31	0.77	2.06	0.81	-0.05	1.78	-0.98	1.72	-0.12	-0.24
23	-2.20	0.94	-0.03	-0.31	0.18	0.28	0.28	0.49	0.74	0.19
24	-0.43	0.13	1.54	-1.27	-0.86	1.60	0.38	-1.42	0.63	-1.30
25	-0.43	1.54	-0.34	-0.57	-0.09	-1.09	0.49	1.04	0.46	0.84
26	0.25	1.10	1.24	-0.32	0.91	-1.07	-0.39	-0.47	-1.10	-0.90
27	1.62	0.17	-1.59	-0.25	0.15	1.17	0.45	0.36	-0.77	1.92
28	-0.34	-0.08	-0.29	0.23	1.40	0.65	0.07	1.01	0.06	0.13
29	-1.30	-2.21	0.82	0.97	0.24	-1.03	0.17	-1.11	-0.77	-0.21
30	-0.77	-1.41	-0.10	-0.52	-0.86	-1.39	-1.04	1.31	-1.60	2.02
31	0.02	-0.56	-1.84	1.77	-0.85	1.42	-2.27	-1.69	1.17	0.77
32	1.75	0.16	-0.88	-0.44	0.35	-1.43	1.74	-0.50	-0.49	0.91
33	1.19	0.21	0.80	-0.21	0.25	0.57	1.54	1.04	0.72	-0.79
34	1.15	-0.60	0.19	-3.10	0.70	1.77	-0.53	-0.64	1.32	0.96
35	0.97	-0.38	1.11	2.01	0.55	0.90	-0.55	-0.67	-1.10	0.73
36	-0.21	-1.53	0.62	-0.01	0.65	0.47	-1.24	-1.01	1.59	-1.29
37	-1.11	0.30	0.41	0.05	-1.11	-1.22	-0.39	-0.42	-0.44	-1.24
38	-0.53	0.15	-0.61	-1.00	0.18	-1.51	2.44	1.28	0.95	2.63
39	0.72	1.34	-0.15	1.47	-0.61	0.41	-0.62	0.51	0.54	-1.33
40	0.12	1.06	-1.19	0.36	0.29	1.26	-0.30	0.77	0.64	-0.16
41	-0.21	-0.90	-1.33	1.05	-0.28	1.26	0.08	2.31	0.72	0.00
42	1.73	0.56	0.76	-0.73	-1.76	0.59	0.06	-0.70	0.06	0.75
43	0.33	-1.13	-0.07	-0.34	1.35	0.65	0.91	-0.83	-2.54	-0.24
44	0.12	-0.23	-1.92	0.35	-1.51	0.98	-1.37	1.38	1.10	1.30
45	0.81	1.14	-1.21	0.66	1.29	-0.41	1.87	0.50	-0.91	-0.93
46	-0.64	-0.42	-0.72	-1.40	0.62	-0.26	-0.17	-0.51	-0.24	1.95
47	1.20	0.91	-0.55	-1.21	0.44	-0.85	-0.70	-1.57	2.28	0.65
48	-1.34	0.03	0.79	1.44	-0.50	0.12	-1.35	-0.72	-0.91	0.04
49	0.71	-1.01	-0.84	-0.17	-1.19	0.52	0.29	1.23	0.00	0.73
50	1.75	-0.07	0.47	-0.72	0.72	-0.01	0.10	-0.41	-0.37	0.32

$\Sigma(x)$  9.89 -3.16 -3.53 -3.59 9.04 4.13 -4.87 -1.05 -2.69 9.66  
 $\Sigma(x^2)$  59.4867 43.4014 43.4835 59.6061 39.9630 67.0269 50.2083 51.9127 54.6071 56.9236

Second Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	1.01	-1.42	-0.80	0.31	-0.35	-0.65	-0.04	0.75	0.56	-2.00
2	-1.14	-0.52	0.51	0.03	-0.20	0.27	-1.08	0.36	0.67	-0.95
3	2.18	1.52	2.71	1.45	0.57	-0.13	0.04	1.07	-0.15	0.17
4	-1.41	0.62	-0.14	0.05	-1.08	1.44	1.45	-1.60	-0.50	-0.27
5	0.41	-0.53	0.77	0.24	-0.15	0.09	-1.68	-1.68	0.01	0.63
6	-0.02	2.24	-0.79	0.05	-1.88	1.16	-1.31	0.38	-0.99	1.42
7	-0.50	-1.59	0.83	0.65	1.23	-2.15	-0.68	-0.03	-0.36	0.75
8	-0.18	-0.27	0.69	2.45	-0.15	-0.77	0.66	0.72	0.25	-0.65
9	0.58	-1.68	-1.11	0.09	0.43	-0.14	-0.68	-0.01	0.49	1.81
10	1.13	0.19	0.48	-1.51	0.08	-0.75	0.58	-1.07	-0.76	0.09
11	0.28	-1.23	-0.08	0.42	0.68	0.66	1.08	-1.59	-2.74	-0.54
12	-0.24	2.42	-0.76	-0.24	-0.41	-0.53	-1.46	0.97	0.50	-0.18
13	-1.57	0.65	0.50	-1.35	-0.55	2.39	-0.32	-0.88	0.39	0.30
14	-0.62	-1.45	0.48	-1.87	0.87	0.56	-1.27	1.66	-0.50	0.01
15	-1.42	-0.02	-2.29	1.76	-0.98	0.19	-0.55	-0.53	0.77	1.37
16	-1.18	-0.47	0.36	-1.45	-0.78	-0.23	-1.41	1.04	-0.06	-1.24
17	0.59	0.55	-0.47	2.44	1.11	0.66	-0.27	0.95	0.96	0.46
18	-0.64	0.82	-0.20	1.45	-0.46	0.56	0.19	-0.14	-0.74	0.18
19	0.59	-0.27	0.94	-0.48	-0.68	0.30	1.58	-1.37	-0.01	0.30
20	0.17	1.02	1.43	0.30	-1.47	0.44	0.41	0.60	-0.69	0.22
21	0.00	1.69	-0.18	-0.73	-1.01	0.09	0.95	0.35	-0.09	0.68
22	3.06	-1.22	-0.86	1.13	-0.81	2.91	-0.71	-1.03	-0.03	0.48
23	-0.97	0.74	1.23	-2.11	-1.83	-0.91	0.05	1.05	1.43	-1.28
24	-0.71	0.60	-0.93	1.51	0.19	0.10	-0.45	-0.73	-0.66	-0.18
25	0.09	1.58	-0.36	-0.46	-1.26	-1.87	-0.72	0.11	0.33	0.99
26	1.27	0.22	1.18	-0.44	0.43	-0.30	0.80	1.08	0.76	1.01
27	-1.38	-0.01	-0.98	-2.35	0.26	-1.17	-0.75	-2.63	1.08	-0.52
28	-2.80	-0.57	0.86	-1.46	-1.00	0.38	0.03	-1.98	0.40	-0.23
29	-1.11	0.63	-0.78	1.17	-0.34	0.83	-1.11	0.83	-0.80	1.41
30	-0.49	0.08	-0.86	0.07	0.97	-1.63	0.10	0.22	0.31	0.05
31	-0.09	-0.65	0.05	-0.35	-0.77	1.41	0.75	-1.40	0.47	0.24
32	-1.17	2.38	2.70	0.78	-0.30	0.21	0.07	1.53	-0.05	1.51
33	-0.08	0.45	1.60	0.12	0.62	1.47	-0.74	0.94	0.79	0.22
34	0.90	0.94	0.67	1.31	0.11	-0.44	-1.08	0.72	0.33	1.12
35	0.54	1.20	-0.53	-0.99	1.33	-0.96	0.92	-0.44	-1.05	-0.63
36	-1.98	0.42	0.19	1.22	-2.39	0.05	0.39	0.61	0.46	1.61
37	-1.00	-1.34	-1.07	-0.08	-0.79	0.68	-1.47	-0.11	-0.50	0.67
38	-0.95	-0.64	-2.07	-1.84	1.07	1.25	1.25	0.98	0.41	-0.40
39	0.62	1.11	0.16	-2.03	1.43	0.39	1.19	-0.40	0.06	0.86
40	0.68	0.38	-0.48	-0.81	0.96	-0.59	-0.46	1.70	-0.74	-0.15
41	0.77	-2.47	0.28	0.66	-0.97	0.63	-0.27	-0.36	0.56	-0.79
42	1.08	-0.67	0.12	0.03	-0.85	-0.56	-0.53	0.65	-0.86	1.42
43	-2.08	-1.02	-1.11	-0.15	-1.78	0.45	-0.79	-0.62	-0.22	-1.10
44	-2.22	1.24	-1.07	-0.35	0.65	2.50	0.59	-0.42	0.60	1.60
45	0.68	-1.12	1.13	-1.69	0.90	-0.20	-0.29	0.30	0.24	0.70
46	-0.20	0.46	1.02	2.39	-0.54	1.14	0.35	0.74	-0.33	0.11
47	0.83	-1.41	0.24	0.47	-0.58	-0.59	0.26	0.35	-0.30	0.11
48	2.19	1.73	1.55	0.17	1.08	0.75	0.44	-2.13	0.84	0.23
49	-1.04	-1.20	0.70	-1.02	2.48	-0.07	-0.69	-0.10	-1.55	-0.17
50	0.43	-1.35	-0.28	0.39	-2.54	0.52	0.01	-0.63	-1.41	-0.29

$\Sigma(x)$  -7.11    2.76    5.18    -0.65    -9.45    9.84    -6.67    -1.22    -2.42    11.16  
 $\Sigma(x^2)$  69.7221    67.6770    53.5754    71.7713    56.9775    52.8858    35.0613    53.2284    29.0192    37.6666

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.23	0.67	1.36	0.89	-1.51	-0.68	-0.29	-0.84	-0.45	0.43
2	0.04	1.78	-0.59	-0.94	-1.94	-0.09	-0.31	-1.02	0.90	0.01
3	-0.52	-0.59	0.61	0.31	-0.65	0.02	-0.68	-0.00	0.07	-0.89
4	0.62	0.11	0.77	0.56	-0.60	-1.86	-0.03	1.49	-0.76	0.63
5	-0.11	-1.92	0.29	0.10	-0.39	0.57	0.32	-0.30	-1.10	0.24
6	0.98	1.28	-0.92	0.37	0.38	-0.69	0.40	-0.16	0.67	0.92
7	-1.44	1.83	-0.61	2.02	-1.10	2.18	-1.33	0.29	-0.05	0.14
8	-0.05	-0.85	0.02	-0.17	0.02	0.85	0.42	0.03	0.92	2.12
9	0.47	-1.11	-0.07	-3.37	0.93	0.70	-0.12	-0.12	1.01	-0.71
10	-0.11	-1.15	-2.10	0.27	0.47	1.37	1.84	-0.29	0.07	0.41
11	0.61	-0.25	1.07	0.06	-0.69	0.01	-0.13	1.42	-0.27	-0.64
12	1.67	-2.29	-0.23	-1.60	0.50	0.08	-0.15	0.58	-0.54	-2.77
13	-0.28	-0.14	1.70	-1.52	0.39	0.05	0.08	0.26	-2.18	-0.70
14	-1.50	-0.07	-0.15	-0.65	-1.36	-0.99	0.73	0.10	0.16	-0.17
15	0.01	-0.29	0.24	-2.06	0.07	-1.05	-0.92	0.16	0.85	1.58
16	1.69	0.54	-0.95	-1.10	-1.81	-1.16	1.52	-0.15	-0.74	-0.61
17	-1.17	-0.47	-0.63	0.03	0.62	0.74	0.56	1.79	-0.09	0.27
18	0.56	0.77	1.96	-0.88	0.44	0.43	1.07	-0.81	-0.70	-1.73
19	-0.80	-0.43	0.91	-0.75	-0.10	0.54	0.49	1.35	0.71	-0.42
20	-0.10	0.66	-0.55	0.62	-0.65	-0.07	2.15	0.34	1.24	-0.02
21	0.84	-0.77	1.46	-0.56	0.38	1.17	-0.60	0.75	-0.58	1.05
22	-0.52	-0.63	1.35	0.47	-0.48	0.93	-1.90	-0.91	-0.16	-1.19
23	0.93	0.58	-2.88	1.56	-0.60	2.41	1.92	-0.77	-1.06	0.03
24	-1.01	-0.67	0.10	-0.61	-1.16	0.49	0.11	-0.08	0.29	-0.59
25	-0.48	-0.15	0.41	-2.03	1.84	0.66	-0.22	0.37	-1.03	-0.39
26	-1.60	1.78	0.70	-0.80	1.39	-0.84	0.60	-2.01	-0.84	0.28
27	0.11	-0.11	0.69	-1.62	-0.64	-0.63	1.16	0.67	1.55	0.76
28	1.50	-0.25	1.41	0.93	-0.13	-1.53	0.16	0.35	0.86	0.67
29	-0.88	0.60	-2.07	-0.60	-0.20	0.25	-1.05	-0.14	-0.35	0.24
30	3.48	0.42	1.85	-0.93	-0.43	-0.13	-0.41	-0.00	-1.12	0.64
31	0.70	-0.67	1.06	0.65	0.25	0.85	-0.65	-0.16	-0.78	-0.58
32	0.18	0.10	-0.95	-1.44	-0.04	0.83	0.76	-1.09	-0.61	1.44
33	-0.07	1.78	-0.64	-0.31	-0.14	-0.97	0.27	1.30	-0.25	0.25
34	-0.64	-0.28	1.23	-0.86	-0.80	0.16	1.01	0.15	-2.18	1.68
35	-0.10	0.77	0.81	-0.12	-1.36	-1.70	-0.08	-1.12	0.43	1.57
36	1.19	1.43	-1.13	-0.39	0.25	0.94	-0.53	-0.78	1.84	1.59
37	0.56	0.37	1.53	0.32	-0.94	0.04	-0.59	1.77	-0.58	-0.85
38	0.43	-0.75	-0.21	-0.54	-0.81	1.02	0.72	-0.48	1.60	-0.46
39	0.36	-0.50	-1.02	-0.63	-0.27	-0.88	-0.37	-0.87	-1.01	-0.76
40	0.65	0.93	0.66	0.73	-1.67	-0.43	1.36	-0.42	1.28	1.00
41	0.50	0.30	-1.36	-1.67	0.69	0.12	2.40	-0.85	-0.35	1.79
42	-0.49	-1.32	0.69	-0.38	-0.78	-2.12	0.07	-0.15	0.79	-0.41
43	-1.55	-1.77	1.19	-0.64	0.59	0.12	0.48	-0.68	0.81	-0.08
44	0.06	-1.32	-0.59	1.54	-0.97	-1.32	-0.54	-0.68	-1.03	1.46
45	-1.09	2.06	0.58	0.41	-1.13	1.39	-0.08	1.31	-0.16	-0.54
46	-0.55	-0.56	1.47	-0.07	0.40	-0.06	0.80	-0.85	-0.08	1.29
47	1.32	0.53	-0.38	-1.01	-0.04	0.51	2.35	-1.03	1.74	-2.13
48	0.64	-1.17	-0.19	1.10	-0.25	0.51	-0.07	0.03	-0.28	-0.91
49	-0.12	-1.03	0.55	-2.81	-2.35	-0.59	0.42	-1.45	0.86	-1.30
50	0.55	0.69	-0.50	0.26	2.71	-0.80	0.95	-0.76	0.32	-0.01

$\Sigma(x)$  5.70 -1.53 7.95 -17.86 -13.67 1.35 14.07 -4.46 -0.36 3.63  
 $\Sigma(x^2)$  45.7366 51.2559 59.4711 63.9624 48.2661 47.1423 45.7995 36.2358 43.2998 54.0891



Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.52	1.63	2.82	-1.07	-0.23	0.40	-0.14	-1.06	0.50	-1.75
2	-0.85	1.52	-0.07	-0.57	0.98	0.96	1.08	-1.16	0.84	1.85
3	-2.16	0.27	0.93	-0.06	-0.05	-0.72	-0.92	0.77	-0.55	-0.58
4	-0.69	0.31	1.75	0.07	0.97	0.18	-0.58	-0.49	0.02	-0.39
5	-0.56	0.15	-1.23	-0.68	-1.34	-0.55	0.04	-2.39	-0.98	-0.54
6	0.22	0.60	-0.72	0.30	-1.38	-0.95	0.01	-0.10	0.82	-0.18
7	-0.21	0.21	1.19	1.06	-0.86	-1.50	-0.85	-0.45	0.85	0.27
8	0.84	2.19	-0.97	-0.69	0.88	0.56	1.23	-0.48	-0.61	-0.18
9	1.31	-2.79	-0.13	-1.21	-1.35	0.30	-1.06	-0.48	0.89	-3.50
10	-0.24	-0.91	0.14	-0.53	0.56	0.32	0.01	-1.33	2.30	-0.10
11	0.53	0.51	1.05	1.23	-0.13	-1.46	-0.61	0.66	-1.12	1.70
12	1.04	0.66	1.04	-1.50	1.31	-0.75	0.19	-1.79	1.40	0.88
13	-0.24	0.69	-0.59	-0.67	0.89	1.11	0.58	0.13	0.24	-0.61
14	0.86	1.65	-0.71	-1.19	0.60	-0.90	-0.50	1.92	0.46	0.57
15	-0.72	1.70	-0.37	0.86	1.57	1.00	-0.23	-0.23	0.57	0.97
16	-0.09	0.80	-1.01	-0.39	0.44	-1.37	-0.62	0.96	-1.25	-1.75
17	-0.13	0.75	-0.21	0.03	0.18	-0.12	-1.21	0.44	-0.21	0.75
18	0.46	0.24	0.90	-0.98	-0.91	1.25	-0.64	0.61	-0.40	-0.44
19	-0.15	-0.85	-0.34	-0.05	1.86	0.87	0.30	-1.62	0.08	-0.58
20	-0.68	0.76	-0.81	-0.35	-0.04	0.32	0.71	-0.68	-0.42	-0.52
21	0.76	1.44	-0.19	-0.65	0.31	1.21	0.30	-0.48	0.28	0.09
22	-0.02	1.08	-1.57	1.60	1.52	0.99	-0.11	1.33	-0.62	-0.14
23	-0.42	1.55	-0.26	-0.16	0.52	1.88	-0.19	0.88	0.70	1.29
24	-0.61	-0.04	1.07	1.33	-0.18	0.98	0.34	0.72	0.58	0.30
25	-0.69	0.52	1.23	-0.23	-0.01	-2.16	0.93	-0.19	0.98	-1.70
26	0.78	1.71	-0.29	-0.30	0.17	0.85	-0.98	0.11	1.17	-0.03
27	0.84	-2.97	-1.40	2.11	-1.51	-0.50	0.26	1.00	0.14	0.01
28	-0.12	0.78	0.90	-1.38	0.89	-0.15	0.28	-2.04	-0.10	1.68
29	-0.17	-0.87	-1.40	1.33	-0.93	0.28	-1.21	-1.58	1.02	-1.07
30	-0.32	1.09	-1.47	-0.80	-0.38	-0.92	0.24	-1.56	-0.90	0.24
31	-0.10	0.57	0.64	1.25	0.54	1.35	1.31	1.24	-0.18	-0.31
32	1.45	0.53	-0.98	-0.19	1.99	0.52	1.01	0.39	-0.68	-0.98
33	0.84	-0.97	-1.83	0.04	2.32	-0.48	0.60	1.08	-0.69	-0.51
34	-1.33	1.23	-0.51	0.26	-1.46	0.09	-0.12	-0.74	-2.40	0.07
35	-0.19	0.43	1.82	-0.13	-0.88	-0.53	1.66	0.82	-1.12	0.47
36	-0.34	1.09	0.49	1.29	1.41	-0.93	-1.35	0.95	0.88	0.56
37	0.66	1.56	-0.46	-0.82	0.91	-1.57	1.71	-0.36	1.09	0.70
38	-1.23	1.68	-0.10	-0.45	-2.97	0.51	-0.49	-0.67	0.45	1.30
39	0.04	1.99	-0.75	0.83	-1.42	0.66	-0.86	-1.48	1.32	2.68
40	-0.59	0.42	0.51	0.23	-0.10	-0.59	-0.21	1.37	-0.28	0.36
41	-0.42	1.56	0.89	1.30	-0.58	0.65	-0.08	1.09	-1.13	-0.89
42	-0.71	0.34	0.09	-0.46	0.91	-0.64	-2.13	1.92	-0.52	-0.48
43	0.78	-0.33	-0.91	-0.54	-0.87	1.66	2.03	-0.47	-0.42	-2.41
44	1.94	1.78	-1.62	-0.44	-0.78	0.35	-0.36	0.90	-1.12	0.19
45	0.81	-0.36	-0.23	-1.52	-0.39	-0.46	-1.61	0.12	-1.23	-1.36
46	0.44	-0.21	1.90	-1.83	-0.90	-0.09	1.37	-1.98	0.81	-1.48
47	0.43	0.39	-0.62	0.32	0.68	2.35	0.79	-1.53	2.00	0.11
48	0.69	-0.05	0.90	1.15	-0.95	-0.61	0.32	-1.02	-1.29	-2.02
49	-1.80	-0.37	-1.31	-1.05	1.15	-1.34	-1.86	-1.43	1.05	0.64
50	0.85	0.55	0.77	-0.40	-0.05	0.46	-1.13	-0.82	-1.45	1.20

$\Sigma(x)$  1.31 +5.25 -2.03 -4.70 2.91 2.77 -2.75 -9.20 1.77 -5.62  
 $\Sigma(x^2)$  33.0445 68.9479 55.3247 42.3656 58.3773 47.9847 43.7385 62.4216 47.3117 66.2850

## First Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	1.45	0.57	-0.61	-0.88	1.08	-0.15	-0.29	1.69	0.12	3.91
2	-0.72	0.82	-0.60	-0.27	0.46	-0.73	-2.18	0.37	0.01	0.63
3	0.70	0.96	0.60	-2.75	0.06	-0.42	1.08	0.32	-1.29	0.58
4	-1.43	0.55	-0.23	-0.00	-2.19	0.13	-0.52	-0.07	1.27	0.37
5	0.25	1.71	-0.37	1.07	2.41	0.23	-0.10	-0.12	-0.86	-0.73
6	1.67	-0.05	0.34	2.08	-0.64	0.61	0.69	0.25	0.50	-0.66
7	-0.86	-0.44	-0.05	-0.82	-0.43	-1.74	-0.86	0.22	-1.06	-0.98
8	-0.26	-1.41	0.22	-0.18	-0.98	-0.61	-2.54	-0.30	0.68	0.16
9	1.00	-1.37	1.53	1.17	-1.35	-0.36	-0.42	-1.34	0.35	-0.27
10	-0.39	-0.23	-1.59	-1.16	-0.40	1.13	-0.83	0.95	2.17	0.69
11	0.92	0.79	-0.71	-0.50	-1.90	-1.63	2.26	1.19	-0.86	0.81
12	-0.68	-0.17	0.35	-1.47	0.45	0.82	0.73	-0.20	0.16	-0.06
13	0.16	0.09	-2.21	2.21	0.89	-1.71	-0.92	-0.05	-0.72	-0.65
14	-0.98	-0.64	-0.25	0.51	-1.71	0.84	-1.09	0.49	-0.79	0.23
15	0.33	1.07	-0.59	-0.62	0.94	-0.27	-2.38	0.06	-1.58	0.26
16	-1.12	0.03	-1.47	-0.10	2.65	1.06	-1.31	0.97	0.96	-1.50
17	0.86	0.01	0.67	-0.13	0.24	-1.06	1.21	0.29	1.39	-1.21
18	-1.52	-0.32	0.89	0.80	-0.54	-0.24	-1.60	-0.52	0.83	-1.01
19	-0.41	0.23	-0.50	-1.80	0.02	-0.62	-2.33	-1.27	-0.78	-0.84
20	0.91	1.15	0.27	-0.67	0.79	-0.21	0.25	-1.98	-1.42	1.81
21	-0.11	-0.29	-0.41	-0.43	-0.82	-0.66	-1.39	-1.17	0.84	0.02
22	-1.54	1.06	0.99	-0.49	0.20	-0.51	0.67	0.09	-0.36	-1.20
23	-0.04	-0.52	0.85	0.20	1.55	1.29	0.50	-0.94	-1.34	-0.24
24	2.10	-0.86	0.22	1.15	-2.08	-0.33	0.61	-0.18	0.71	-0.81
25	-0.66	1.13	-0.18	0.23	-0.04	1.38	-1.21	0.15	0.95	-0.70
26	-1.78	-0.56	0.74	-0.01	0.01	0.76	0.07	0.70	0.57	0.16
27	-0.76	2.58	-0.31	2.34	-1.44	-0.56	0.14	-0.06	-1.61	-0.75
28	0.89	0.35	0.26	0.83	0.02	-0.65	-0.53	1.32	0.55	-0.52
29	-0.30	0.26	0.87	0.26	1.37	0.45	2.02	-0.25	-0.98	-1.48
30	-1.28	-0.63	0.48	-1.33	-0.58	-1.32	0.12	-1.05	0.18	-0.75
31	1.91	-0.55	-0.79	1.53	0.01	-1.75	-1.67	1.45	0.60	0.71
32	0.75	-1.10	0.92	-0.04	0.49	-0.68	0.83	-2.43	0.53	-0.37
33	-0.26	-0.34	0.13	-0.29	0.29	-0.55	-1.25	0.71	-0.18	-0.59
34	-0.31	-0.89	0.08	-0.39	0.82	0.11	-1.87	-0.30	-0.14	0.19
35	1.56	0.35	-0.42	0.13	1.12	-1.72	-0.72	1.36	0.61	2.03
36	-1.89	0.98	1.27	1.33	2.31	1.05	-1.87	-2.80	-0.72	1.77
37	-2.68	-0.23	0.56	2.32	0.91	0.20	-0.66	0.97	2.15	-0.24
38	-1.42	-0.66	-0.28	-1.03	0.81	-0.58	-0.51	0.04	-0.55	0.16
39	0.04	0.07	-0.35	-0.26	-1.73	-1.63	-1.46	0.63	1.05	0.88
40	0.84	1.54	-1.29	1.41	0.09	-0.06	-0.07	-1.29	0.48	1.40
41	-1.19	0.21	0.41	-0.56	-0.84	-0.57	0.64	-0.12	0.16	-0.28
42	-0.26	-1.96	0.04	1.53	0.50	-0.64	-2.12	-1.37	0.00	-0.64
43	-0.85	-0.67	-0.20	2.04	0.94	-0.86	1.98	-0.19	-1.26	1.38
44	-0.66	-0.93	-0.67	-0.99	1.29	-0.35	-0.40	-0.15	0.51	0.00
45	2.09	-0.73	-0.97	-0.32	-0.97	2.39	-1.12	0.77	0.40	0.14
46	0.01	-0.46	-0.00	-0.09	-0.22	-0.22	0.89	0.28	0.11	0.99
47	0.34	0.55	0.64	-1.34	-0.22	0.43	1.18	0.07	-1.19	-0.44
48	-0.18	-2.37	1.64	1.91	0.59	0.94	0.06	-0.66	-0.51	0.74
49	-1.18	-0.18	0.45	-1.13	-0.37	0.81	-0.27	1.09	-0.98	1.66
50	-1.43	-2.09	0.59	-1.29	-0.11	0.51	-1.32	-0.60	-0.47	1.30

$\Sigma(x)$  -8.37 -3.59 0.96 3.71 3.75 -8.25 -19.88 -2.98 -0.81 6.06  
 $\Sigma(x^2)$  62.0495 46.6375 30.3246 68.5921 60.7725 43.6559 77.8812 46.1656 42.2639 54.5114

Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	0.74	1.05	0.88	1.73	0.62	-0.74	-0.55	-1.28	0.38	0.09
2	0.70	0.74	1.40	0.17	-0.24	0.82	0.35	0.42	2.13	-1.00
3	0.23	0.09	-0.26	-0.05	0.45	-0.98	-0.26	1.11	-1.05	0.34
4	0.43	0.50	0.66	-0.56	-1.65	0.70	-0.63	-0.68	-0.92	-0.77
5	0.51	0.85	-0.92	-1.67	-0.65	-1.47	1.11	1.41	-0.58	0.46
6	-0.20	1.24	0.35	0.80	-1.34	0.08	0.93	-0.35	0.09	1.20
7	-1.44	-0.95	0.17	0.14	-0.12	-0.73	-2.81	1.13	0.54	-0.74
8	1.17	1.03	0.26	-0.78	-0.49	-0.40	1.21	0.05	-0.60	-0.20
9	0.06	-0.01	0.64	0.22	-0.76	0.12	0.48	0.27	0.19	0.84
10	-0.27	-0.62	2.71	-0.28	1.36	-1.09	2.33	-1.06	-0.22	-1.42
11	-1.26	0.39	-0.50	0.38	0.14	-0.79	1.36	1.25	1.78	0.91
12	-0.28	1.13	-1.37	-1.65	-1.15	0.49	1.35	-0.83	-0.06	-0.12
13	-0.68	1.09	1.99	0.63	1.39	-1.65	-0.64	0.75	0.60	-0.14
14	0.15	1.55	-1.30	-1.37	0.86	-0.16	-0.61	1.10	-0.24	1.84
15	2.15	0.31	1.37	-1.65	0.26	-1.08	-0.54	-1.69	-0.31	0.19
16	-0.13	0.18	-0.01	0.20	0.34	-0.33	0.28	1.81	0.60	-0.25
17	0.42	-1.95	-0.91	-1.24	1.14	0.48	0.15	-0.38	-1.85	-0.45
18	-0.59	1.22	-0.79	0.43	0.34	0.02	-0.42	0.29	-0.22	-0.95
19	1.45	-2.21	-0.39	-1.54	-2.15	0.42	1.50	0.46	0.16	0.31
20	-0.35	0.75	0.55	-0.26	0.79	-0.12	0.72	0.88	1.16	-0.20
21	2.34	0.67	-1.50	-0.20	-1.31	0.40	-0.36	0.27	-0.51	0.17
22	-1.18	-0.82	-0.48	-0.92	0.06	2.11	-0.72	-1.15	-1.64	-0.19
23	1.05	0.24	-0.48	1.23	0.72	0.45	1.15	0.86	0.39	1.22
24	1.13	1.14	0.93	0.77	0.18	0.06	-0.68	-0.57	0.36	-0.46
25	-1.05	-0.04	0.05	-1.22	-0.37	0.43	1.00	-1.63	-0.23	-0.62
26	0.49	-0.07	0.42	0.56	0.55	0.81	1.48	-0.49	-1.13	-0.05
27	1.29	1.37	1.65	2.07	-2.22	1.25	0.04	-1.72	0.35	1.00
28	-0.08	0.11	-0.01	1.49	0.67	0.96	2.07	-0.90	0.58	2.08
29	-0.82	-0.36	0.24	-0.93	-0.08	-0.33	1.23	-0.33	0.40	-0.52
30	1.34	0.15	-1.32	0.95	-0.26	0.89	0.50	-0.69	-0.38	1.12
31	-1.61	0.67	-1.52	-0.79	0.12	0.31	0.67	-0.34	0.54	-0.42
32	-1.40	0.30	-0.38	1.09	0.22	-1.35	1.14	-1.39	-0.47	1.14
33	-1.06	-0.55	0.25	0.49	-0.15	0.13	1.01	-2.14	0.37	-0.42
34	0.13	1.75	0.49	-0.51	0.81	-1.81	0.45	-0.65	0.45	1.30
35	-0.29	-2.38	-0.73	-0.74	0.84	1.98	-0.85	0.99	-0.23	-0.66
36	0.58	0.77	0.12	-0.30	-2.17	-0.24	0.24	0.40	-0.06	-0.32
37	1.35	-0.12	-0.54	1.40	-0.04	0.49	0.00	0.71	0.23	-0.53
38	0.90	-0.33	0.05	-1.12	-0.34	-0.47	0.11	-0.06	-2.02	-2.00
39	1.28	-0.65	0.01	-0.81	-1.70	-1.18	-0.61	0.72	0.58	-0.13
40	1.31	1.87	0.93	-1.26	0.16	-0.56	1.19	1.38	-0.36	0.40
41	-0.06	1.18	-0.17	-0.32	0.55	-0.77	-0.81	-1.40	-1.37	1.82
42	0.48	1.19	1.02	-0.28	-1.67	-0.14	1.40	-1.04	-1.60	-1.04
43	-0.17	0.81	1.98	-0.18	-0.31	0.62	0.55	-1.95	-0.11	0.52
44	-1.17	1.50	0.61	0.32	-0.85	0.62	-1.76	0.17	-0.52	-0.23
45	-0.39	0.83	-2.38	0.45	0.30	0.69	1.22	1.38	0.76	-1.63
46	-2.30	-0.09	1.22	-0.00	0.52	1.10	-0.35	-0.61	-0.63	-0.63
47	0.36	-0.93	-0.74	0.40	0.69	0.16	-0.44	1.13	0.36	-1.74
48	1.48	0.39	-0.06	-0.56	-0.29	0.95	0.28	0.86	-0.33	1.49
49	-0.34	1.47	1.13	1.49	2.68	0.18	-1.09	-0.32	-0.11	-0.51
50	-0.78	0.93	1.38	-0.63	-1.33	0.10	-0.58	0.00	1.01	-0.32

$\Sigma(x)$  5.62 -0.68 6.70 -4.41 -4.88 1.43 12.79 -3.85 -3.74 -0.22  
 $\Sigma(x^2)$  51.5808 51.5862 52.6056 44.6699 50.2574 36.4811 52.4449 51.5655 34.3954 42.9878

First Five Hundred										
	1	2	3	4	5	6	7	8	9	10
1	1.69	1.30	-0.21	0.31	-0.12	-1.48	0.07	-0.57	-0.30	0.81
2	-0.78	-0.36	-2.33	1.78	0.35	-1.50	-1.15	1.77	1.39	-2.75
3	-1.19	-0.69	0.66	-0.71	-1.38	-0.11	0.30	-0.80	-0.06	-0.62
4	-1.67	0.08	-0.61	1.24	-0.24	-0.13	-1.05	-0.49	0.34	0.62
5	0.24	1.80	0.89	0.12	1.32	0.57	0.72	-0.49	-0.78	-1.53
6	0.80	-0.67	-1.20	-0.63	0.85	0.30	0.55	-0.26	0.14	-0.21
7	-1.37	-0.40	-0.10	0.10	-0.01	-2.23	-2.32	-1.61	-1.62	-0.49
8	0.00	0.70	-1.78	-0.30	-0.54	-0.70	0.87	-0.56	0.49	-0.96
9	-0.62	0.53	-1.41	-0.16	-0.72	-1.12	1.53	-2.14	-0.68	-1.12
10	1.83	-0.22	-0.29	-1.21	-0.05	0.10	0.97	1.55	-1.11	1.71
11	0.81	1.68	0.64	0.83	-0.05	-0.18	0.16	0.88	-0.21	0.64
12	0.67	-1.44	0.47	0.26	0.03	0.10	-1.93	1.00	0.09	-1.77
13	-1.42	-0.31	0.33	-0.63	0.25	0.47	0.78	0.71	0.69	-1.20
14	-1.36	-0.29	-0.60	-2.25	-2.05	-0.81	0.26	0.51	0.60	-0.18
15	0.42	0.14	0.23	-2.04	0.37	-0.68	-2.51	0.57	0.19	0.09
16	-0.59	0.27	0.22	0.71	0.65	-1.49	-2.00	0.38	1.52	-1.21
17	0.28	-0.85	0.70	-0.84	2.31	0.57	1.80	0.30	1.34	0.82
18	0.98	-2.56	-0.73	-0.10	-0.88	0.42	-1.89	-1.63	0.52	-0.50
19	-0.54	-1.54	0.14	0.08	-0.84	0.27	1.02	-1.18	1.49	0.64
20	0.36	-1.51	1.24	-0.37	0.25	1.81	0.55	0.36	0.11	-1.15
21	-1.22	-0.92	0.44	-0.11	-1.89	0.38	0.33	-1.60	-1.30	2.70
22	0.42	-1.28	0.11	-0.30	0.18	-0.16	0.25	1.42	-1.05	-0.76
23	-0.03	-0.58	-0.06	-0.02	-0.09	0.44	-0.59	-0.90	-0.21	0.82
24	-0.60	-0.93	-0.24	1.95	-0.70	-0.06	0.52	0.48	-1.71	-0.62
25	-0.10	-1.41	-0.34	-0.30	0.36	0.83	-0.16	1.26	0.36	-1.02
26	-0.29	0.10	0.61	-0.92	1.17	1.40	-0.55	-0.02	1.17	0.37
27	-0.45	0.26	-0.35	-0.89	1.58	-0.02	-0.69	-0.44	-0.71	-0.36
28	-1.30	1.38	0.83	0.18	-1.43	-1.16	1.15	-1.62	0.39	-1.10
29	1.69	-0.16	-0.70	0.47	0.83	1.61	0.20	-1.11	-0.22	1.31
30	1.06	-0.53	-0.93	1.68	0.93	-1.59	0.40	0.84	0.27	-0.27
31	-0.14	-1.38	-0.50	-0.88	0.87	0.87	0.29	-0.61	-0.31	-1.81
32	-1.05	-0.38	-0.90	-0.20	0.48	-0.51	-1.45	0.36	-1.28	0.61
33	0.86	-0.36	0.95	0.01	-0.21	0.79	-2.35	-0.86	-0.37	-1.16
34	-1.37	-0.72	-0.63	1.36	-0.02	0.66	1.69	-1.47	2.49	-0.98
35	1.60	-0.42	0.63	-3.38	-1.24	-0.29	0.69	0.37	0.60	-0.98
36	-1.35	0.33	-0.92	-0.05	-0.47	0.10	1.68	0.30	-0.86	0.18
37	1.78	0.54	0.17	-0.71	0.30	-1.28	0.03	0.05	-1.63	0.15
38	-1.50	-0.53	0.12	1.90	-0.81	0.30	-0.38	0.36	-0.49	-0.53
39	-1.15	0.65	-0.11	1.45	0.74	1.01	1.00	-0.36	-0.58	0.37
40	-2.20	1.75	-0.04	-0.82	0.92	0.93	1.23	0.28	0.77	-1.30
41	-1.09	1.15	-0.18	-1.20	-0.99	0.36	0.67	-0.17	-0.12	-0.43
42	-0.24	-0.79	0.69	-0.63	-0.61	0.80	0.96	-1.34	-1.71	1.13
43	-0.95	1.41	-0.72	-0.97	-1.12	0.24	-0.13	1.16	0.60	0.14
44	1.86	2.39	0.46	-1.17	0.69	0.08	1.31	-0.88	1.61	0.62
45	-0.90	0.91	1.48	0.48	-0.00	-1.26	-0.45	-0.40	2.20	0.60
46	0.67	0.15	-1.35	-1.05	-0.43	0.05	-1.24	-0.86	0.27	1.18
47	-1.67	-0.31	-0.66	2.16	0.83	-0.40	-1.42	0.73	3.06	-1.48
48	-0.04	0.19	-1.09	0.96	-1.49	0.08	0.98	-0.74	-0.54	0.49
49	-1.01	-0.68	-0.28	0.01	0.10	-0.21	0.48	-0.33	0.55	-0.13
50	-0.46	0.11	-1.88	0.45	0.09	0.69	0.42	0.63	-0.29	1.17

$\Sigma(x)$  -10.63 -4.40 -9.13 -4.35 -1.93 -1.14 1.60 -7.17 5.11 -9.45  
 $\Sigma(x^2)$  59.5157 50.1732 34.6127 60.0063 39.9041 37.4406 63.5092 44.1703 56.7407 55.5963

Second Five Hundred

	1	2	3	4	5	6	7	8	9	10
1	-0.39	-0.71	1.23	0.32	2.06	2.09	1.66	-0.35	-0.56	-0.73
2	2.12	1.51	0.39	-0.34	-1.02	1.99	0.08	-0.21	0.33	0.46
3	-0.28	0.82	0.49	0.19	-0.58	1.05	-0.17	-0.76	-2.02	0.21
4	1.54	0.94	0.14	0.39	-1.24	-0.86	0.81	-0.28	-1.49	0.31
5	-2.00	-0.45	-0.99	0.98	0.49	-0.91	0.56	1.14	0.84	0.00
6	0.52	2.15	0.43	-0.38	-0.78	-0.62	-0.63	-0.66	-1.78	1.05
7	0.58	2.32	-0.08	-0.68	-0.45	1.53	1.62	-0.76	1.35	0.47
8	-0.66	-0.66	0.90	0.94	-0.27	-1.81	-1.03	0.33	-1.43	0.08
9	1.11	-1.02	0.52	-0.06	0.18	-0.65	1.20	-0.57	0.17	-0.54
10	-0.76	-0.01	-0.23	-0.63	1.08	1.57	-0.74	0.67	0.81	0.04
11	2.05	-2.00	-0.17	-0.79	-0.76	-1.16	-1.07	1.01	-1.81	1.61
12	-0.13	-1.54	-1.21	0.27	1.49	-0.54	1.36	1.28	-1.77	1.09
13	-1.68	0.36	-1.75	1.23	-0.34	0.27	-0.38	-0.39	-0.66	-0.17
14	0.71	-0.14	0.38	-0.60	0.26	-1.04	-0.22	-0.89	-0.44	1.85
15	-0.62	0.01	-0.38	-0.43	-0.56	0.40	0.07	0.27	-0.35	1.77
16	-1.13	-0.76	-1.20	-0.71	1.26	0.47	0.60	0.90	0.36	1.32
17	-1.10	-0.21	1.22	-0.49	-1.53	0.28	0.71	-0.66	0.54	2.04
18	0.05	-2.44	-0.92	-1.89	-0.93	1.10	2.16	0.28	-0.81	0.31
19	-0.35	-1.48	0.56	-0.83	-0.60	-0.37	-0.48	1.31	0.12	-0.94
20	0.02	-0.80	0.60	0.91	0.36	0.02	0.04	0.99	-0.30	-0.41
21	1.25	1.17	-0.28	1.48	-1.13	-0.18	1.49	-1.12	-0.32	0.95
22	0.74	0.68	0.69	2.09	2.11	0.25	-0.89	-1.08	0.36	0.99
23	-0.36	1.25	-0.01	0.02	1.18	2.28	1.35	-1.25	0.96	-1.12
24	2.73	0.31	-1.51	1.66	0.47	1.65	0.39	-0.60	-0.59	-0.42
25	-1.22	-0.46	-0.05	-0.49	0.76	0.08	-0.62	1.06	1.82	-1.09
26	-0.15	1.36	-0.54	0.81	0.43	-0.48	0.41	-0.58	0.50	-0.16
27	1.18	-0.77	-1.50	1.98	0.57	-0.59	-0.25	-1.50	1.22	-1.43
28	-0.32	-1.44	-0.12	0.11	-0.44	3.53	-0.83	0.82	-0.04	-0.21
29	1.01	-2.44	-0.49	0.64	-0.05	0.72	-1.38	0.06	-2.05	-1.11
30	1.18	2.20	0.70	1.02	0.59	-0.07	-1.17	1.17	0.79	-0.46
31	-1.47	-0.52	-0.33	0.44	-1.73	-0.64	0.01	1.37	0.12	0.74
32	-0.38	0.39	0.84	-1.14	0.09	-2.34	-1.09	-2.09	0.90	-0.15
33	1.63	0.46	-0.00	0.50	1.24	-0.55	0.15	0.90	-0.04	1.60
34	-0.02	0.65	0.76	0.13	0.81	-1.12	1.18	2.44	-0.47	0.47
35	-0.05	-1.92	-0.78	-0.16	0.75	1.30	-1.12	-0.77	-0.15	-0.08
36	0.62	-0.44	-0.83	-1.91	0.93	-0.10	-0.52	1.57	-1.53	-0.71
37	-1.39	-2.36	-0.93	-0.97	-0.85	1.30	-0.78	-0.28	1.04	-0.95
38	1.34	-0.90	-1.31	-0.42	0.70	2.51	0.69	1.42	-1.09	-2.02
39	2.00	-1.04	-1.33	-0.34	-1.05	1.70	0.53	0.00	1.27	0.91
40	0.80	-1.31	0.35	0.00	-1.68	-2.20	-0.61	-0.11	0.03	-0.60
41	-0.09	-2.33	0.33	-0.03	0.28	1.95	0.15	0.18	0.73	0.13
42	-2.03	-1.12	0.74	-0.79	0.92	0.37	-0.41	1.54	1.57	-0.26
43	-0.21	-1.34	0.41	1.11	-0.11	-0.01	-0.11	-0.30	-0.41	0.28
44	-0.64	1.22	-0.46	0.99	0.31	-0.54	0.09	1.04	0.68	0.34
45	-0.94	0.74	0.08	0.75	0.69	-0.13	-1.43	-0.75	-0.52	-0.38
46	-0.65	0.02	-0.82	0.01	0.28	-1.54	-1.36	0.84	1.25	0.45
47	-0.23	-0.13	-1.05	0.05	-0.22	0.01	-0.08	0.56	1.20	-1.79
48	0.75	-0.43	-1.18	-0.66	-0.10	-1.30	-1.02	-1.08	1.03	-0.31
49	0.00	-0.07	0.83	-1.40	1.24	0.50	-0.47	-0.42	-0.14	-1.06
50	0.01	1.02	0.70	-0.76	0.05	0.15	-0.14	0.73	-2.28	-2.06

$\Sigma(x)$  4.69 -15.96 -7.16 2.12 5.16 9.32 -1.69 5.52 -3.06 -1.87  
 $\Sigma(x^2)$  59.8235 76.8378 32.1960 40.4810 41.9776 79.5148 39.6063 49.7724 55.3464 47.3091

